MEETING

STATE OF CALIFORNIA

ENVIRONMENTAL PROTECTION AGENCY

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

GREEN RIBBON SCIENCE PANEL

CAL/EPA HEADQUARTERS

SIERRA HEARING ROOM, 2ND FLOOR

1001 I STREET

SACRAMENTO, CALIFORNIA

WEDNESDAY, APRIL 9, 2014

9:03 A.M.

JAMES F. PETERS, CSR, RPR
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A P P E A R A N C E S

PANEL MEMBERS:

Arthur Fong, Ph.D., IBM Corporation, Co-Chairperson

Kelly Moran, Ph.D., TDC Environmental, LLC, Co-Chairperson

Caroline "Cal" Baier-Anderson, Ph.D., U.S. Environmental Protection Agency

Ann Blake, Ph.D., Environmental and Public Health Consulting

Michael Caringello, S.C. Johnson & Son

Bill Carroll, Ph.D., Occident Chemical Corporation (via teleconference)

Ken Geiser, Ph.D., University of Massachusetts-Lowell

Helen Holder, Hewlett-Packard Company

Tim Malloy, J.D., University of California, Los Angeles, School of Law

Julia Quint, Ph.D., California Department of Public Health(Retired)

Megan Schwarzman, M.D., M.P.H., University of California, Berkeley

Rebecca Sutton, Ph.D., San Francisco Estuary Institute

Don Versteeg, Ph.D., Procter & Gamble Company

Ken Zarker, Washington State Department of Ecology

STAFF:

Debbie Raphael, Director

Meredith Williams, Ph.D., Deputy Director, Safer Products and Workplaces Program

Bob Boughton, Senior Hazardous Substances Engineer

A P P E A R A N C E S C O N T I N U E D

STAFF:

Andre Algazi, Senior Environmental Scientist

Radhika, Majhail, Public Participation Specialist

Hortensia Muniz, Senior Hazardous Substances Engineer

ALSO PRESENT:

Mitch Fine, Armstrong Insulation Services

Randy Fischback, Dow Chemical

Greg Gorder, Technology Sciences Group

Tom Jacob, Chemical Industry Council of California

Will Lorenz, General Coatings

Nasim Mullen, Gap, Inc.

Glenn Rucker, Polyurethane Industry Tech Rep

Tim Shestek, American Chemistry Council

Xiaonan Wang, University of California, Davis

I N D E X

I N D E X C O N T I N U E D

P R O C E E D I N G S

PUBLIC PARTICIPATION SPECIALIST MAJHAIL: Okay. Everybody, let's get seated. We're going to start.

So I welcome you all today. My name is Radhika Majhail, and I'm with Department of Toxic Substances Control. And I welcome you all here again this morning.

One glitch. I know we're starting off with a technical problem here. If you're wondering why your iPads, why your laptops and are not connected, because we're having WiFi issues. Sorry. So we'll let you know if we have any updates on it.

Yeah. Unfortunately, we're not being connected at this point, but we'll let you know if we -- you know, any updates we get, we'll inform you.

So let's get started before going in deeper into the meeting, let me just go over some housekeeping issues real quick. The bathrooms are out the hall here, pass the Byron Sher auditorium, and then to the left. For the fire exits, we have those two little dinky doors right there, and the door behind me. These are all our fire exits. And in case of emergency, we all go down the stairs and we'll meet into the Cesar Chavez Park that is right across the building. Go that way. Yeah, you go out, and it's right that way.

This meeting is being audio webcast. It is being

recorded, and we also have a court reporter here, so please when you're saying -- you know, making a comment or saying anything, please be very clear, so we can record everything. And also for our audio listeners, we want to make sure that they capture everything correctly.

This meeting will be -- the transcript will be put up for the webcast later on, so we will have that as part of the record as well.

We will be having a couple breaks and lunch during the day. So I -- you know, I just want to remind you guys all to please be mindful of the Bagley-Keene requirements during breaks and lunch as well. And for the public, during the public comment period, we will be having two public comment periods throughout the day today. The first one is going to be at 10:00 o'clock. And if you want to make comments, please make sure that you've picked up one of these little guys, either yellow or white are fine. They're just two different colors. So just have a comment cared -- just pick up a comment card and just let me know when you're ready to speak. Just wave and I'll -- you know, I'll collect these then we'll have you queued up for talking.

Other than that, I think we are ready for the agenda review, and I will hand over to Meredith. One quick question again, if you are not talking, please make

sure that your mics are turned off. But if you're talking, make sure you tap it on.

Okay. Thank you, everyone. Welcome again.

DEPUTY DIRECTOR WILLIAMS: Thank you, Radhika. And thank you to all the Panel members. On behalf of Director Rafael and on behalf of DTSC staff, especially of course in the Safer Consumer Products Branch, we're thrilled to convene this Panel and to get things started.

I was thinking about it last night just all the energy and all the conversation over dinner. And I was thinking about -- I love a lame metaphor. It's -- you know, I just look for excuses to try to come up with metaphors. But it felt almost as though there were race horses getting the gates. And that, you know, you can't keep them in the gates very long. And you guys are ready to go. I can tell that it's time to just, you know, open those gates and let the fun begin. So I'm really looking forward to hearing all the input, the varying perspectives, and all of the wealth of experience and knowledge that this Panel brings.

It's truly an impressive Panel, and it's kind of a miracle to get people with so many commitments and so much on their plates together in one place. So I'm sure it's also energizing for you to be among this set of colleagues, and I'm sure that you'll get a lot out of it,

but we know we will. And we're truly very appreciative.

So with that, I'm just going to go ahead and turn it over to Kelly Moran and Art Fong our co-chair people.

CO-CHAIRPERSON FONG: Thank you very much Meredith. Good morning. I'm actually going to leave the welcoming of the members to my colleague Kelly Moran. What I would like to do is, first of all, acknowledge the tremendous amount of work and preparation that members of the DTSC staff -- members of the DTSC staff has put into getting this meeting organized and ready and putting the agenda today, and the questions. Hours and hours of work. I mean, it's amazing. It's really impressive.

Second thing I'd like to recognize and knowledge is the previous leadership of Ken Geiser and Bill Carroll on the first Green Ribbon Science Panel. The reason why we're at the point that we are at today it's because of Ken and Bill. And the reason why you see this flag here --

(Laughter.)

CO-CHAIRPERSON FONG: Okay. It's not because Bill and I had words and I'm channeling Bill for this meeting. Actually, he's unable to join us physically, and he's in Washington D.C. and we're trying to coordinate the mechanism, such that -- because we lost WiFi, so he can join us by telephone. So I'm going to turn this over to

Kelly so she can actually welcome the members.

CO-CHAIRPERSON MORAN: Hi. I'm Kelly Moran. And I want to welcome all -- everyone of you, so everyone in the public and the members, and again, echo Art in thanking the staff. Each of you, as members, have done a lot of work to get ready for this meeting, and I'm really looking forward to an exciting meeting.

You're an amazingly diverse group in terms of you have incredible experience. You have incredible knowledge and background. And each one of you is modest. And so when I say that, each one of you is looking to see who was the one who has that -- seeing that.

But you're also a really creative group. And today, we're going to particularly be drawing on your creativity. One of the ways that this group has previously helped the Department a lot is not only with its experience, but also with its creativity in helping identify directions that the Department can explore to move forward that are going to be most productive in moving its safer consumer product regulatory program into a successful operation.

So today, be creative, think creative. It's -- that's what we're looking for. And we're really looking for positive outcomes. So I'm going to challenge each of you also to be using that creativity to help us figure out

how we can give specific suggestions to the Department, so where should they explore, where might they head, what can we as a group and as individuals offer to the Department to help them make these pieces of the regulatory program successful.

So I want to also note that everyone is here, except Bill, as Art mentioned, and Julie Schoenung who had a death in the family, I'm sorry to say, and was at the last minute unable to be here because of that. So she sent her regrets. And I'm certainly going to miss her input, but she's very much committed to being part of this panel. And I'm sure we're all going to look forward to including her in our next meeting.

So with that, I think I'll turn it back to Art.

CO-CHAIRPERSON FONG: Since this is the first in-person meeting for this Panel, and we have new Panel members, what I'd like to do is for the -- to go around the room and have the Panel members introduce themselves. How about starting with Cal.

PANEL MEMBER BAIER-ANDERSON: Good morning. I am Caroline Baier-Anderson from U.S. EPA Design for the Environment Program, but I go by Cal, C-a-L.

PANEL MEMBER BLAKE: Ann Blake, Environmental and Public Health Consulting and formerly of DTSC.

PANEL MEMBER CARINGELLO: Mike Caringello with

S.C. Johnson & Son.

PANEL MEMBER GEISER: Ken Geiser trying to be a retired professor from the University of Massachusetts-Lowell.

(Laughter.)

PANEL MEMBER HOLDER: Helen Holder, Hewlett-Packard.

PANEL MEMBER MALLOY: Good morning. I'm Tim Malloy from UCLA.

PANEL MEMBER QUINT: I'm Julia Quint, retired from the California Department of Public Health. Also, trying to be retired. I am former Chief of HESIS.

PANEL MEMBER SCHWARZMAN: Good morning. I'm Meg Schwarzman and I'm at University of California, Berkeley.

PANEL MEMBER SUTTON: My name is Rebecca Sutton and I'm with the San Francisco Estuary Institute.

I'll try that again. Rebecca Sutton, San Francisco Estuary Institute.

PANEL MEMBER VERSTEEG: Don Versteeg, Procter and Gamble Company.

PANEL MEMBER ZARKER: Ken Zarker, far from being retired at this point --

(Laughter.)

PANEL MEMBER ZARKER: -- with the Washington State Department of Ecology.

BRANCH CHIEF PALMER: I'm Karl Palmer. I'm the Branch Chief at DTSC for the Safer Consumer Products Program.

DEPUTY DIRECTOR WILLIAMS: I'm Meredith Williams. I am the Deputy Director for Safer Products and Workplaces Program.

CO-CHAIRPERSON MORAN: And I'm Kelly Moran with TDC Environmental.

CO-CHAIRPERSON FONG: And I'm Art Fong with the IBM. Just a point for the public -- listening public, the affiliations that were given out by the members, they're not here representing their affiliations. In fact, they're here to provide DTSC with guidance based on their own experience and expertise. So their affiliations, that's just so you know who they are and where they're from.

Excellent. Thank you very much.

Yes. Again, I mentioned a little bit earlier that Bill Carroll was unable to be with us here in Sacramento today. Have we straightened out the WiFi or communications with Bill?

MS. YEP: Not yet.

CO-CHAIRPERSON FONG: Okay. In that case, when we do get him hooked up, we'll just ask him to introduce himself. And I will take care of this when he has

questions, and I'll do -- I'll channel Bill Carroll today.

(Laughter.)

CO-CHAIRPERSON FONG: So I do have some Bob Dylan references, so don't worry.

(Laughter.)

CO-CHAIRPERSON FONG: So this morning's topic, we're going to cover DTS -- there's going to be updates from DTSC on the three-year priority product workplan, and the product selection process. And following those presentations -- oh, sorry -- we're going to have time for clarifying questions from the Panel members. And after the Panel question and answer period, we're going to take public comments on the priority product topic only. And that's going to last for about 15 minutes.

And after that, we're going to have a short break, after which the Panel will have a discussion on the product selection process. We're going to break for lunch about 11:45, and reconvene at 1:00 o'clock. And after which, we're going to have a DTSC presentation on the alternatives analysis, following the same format that we're going to have for this morning for the priority products, which is again presentations from DTSC, Panel members asking clarifying questions on what was presented, and then public comments.

After the alternative assessment presentations,

we're going to have a break and then continue with the Panel discussion on the alternatives analysis topic, and then adjourn at 5:00 p.m. today.

So I'm going to turn this over to Kelly and we're going to start DTSC presentations.

CO-CHAIRPERSON MORAN: Thank you very much, Art. So the purpose of this next session is just briefings from the members and anyone else who wants to listen in. And we'll be starting with Andre Algazi. I'm realizing is -- would it be useful to be briefly introduce the DTSC staff who are here, at least identify them.

DEPUTY DIRECTOR WILLIAMS: I think what I'd ask is that when you get up to give your talk, if you could just say a little bit about what your responsibilities are and how you've contributed to the regulations or the program or the product selection or just what you've been up to. Thank you.

CO-CHAIRPERSON MORAN: Thank you. And sorry to put you on the spot, Andre.

SENIOR ENVIRONMENTAL SCIENTIST ALGAZI: Not a problem. Good morning, Kelly. Good morning, members of the Panel and to my managers who are here. My name is Andre Algazi. I'm a Senior Environmental Scientist here in the Safer Consumer Products Branch at DTSC.

My team spent the last year evaluating dozens of

products for potential designation as priority products on our initial priority products list, the draft of which we just unveiled in March, on March 13th. So I wanted to -- let's see.

Can I have the -- I don't have the -- do I a have a clicker?

Yes, I do.

(Thereupon an overhead presentation was presented as follows.)

SENIOR ENVIRONMENTAL SCIENTIST ALGAZI: So this is the program update part of the presentation.

Today, we are going to be talking about, as Kelly and Art mentioned, the product selection process, and as well -- so the initial priority products selection, what's going on with regard to developing regulations, milestones that are coming up, a discussion of the three-year priority products workplan, which will be announced later this year, and then much of the day is also devoted to the alternative analysis topic.

There are a couple other bullets here just to let you all know that there are a lot of other things going on within our Branch within DTSC to implement this program. There are updates that we need to make to the candidate chemicals list, and we have a significant IT development infrastructure project underway right now, which we aren't

talking about those two topics today.

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SENIOR ENVIRONMENTAL SCIENTIST ALGAZI: So just sort of to review where we are. As you all know, the Safer Consumer Products regulation start with the candidate chemicals list, which was announced in September of 2013. And now in March/April 2014, we're in the stage of the process where we identify some priority products with chemicals of concern.

Once the process plays out, there will then be some alternative analysis requirements coming into play. And before that, we will be publishing our alternatives analysis guidance. We'll be talking about that later. And then finally there's the regulatory response piece.

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SENIOR ENVIRONMENTAL SCIENTIST ALGAZI: So just to refresh everybody's memory, we started with a compilation of 23, depending on how you count, authoritative lists of chemicals, which are in two sort of broad categories, hazard trait lists, which are the blueberries on the left side, and exposure indicator lists, which are sort of grapes, or something, on the right side.

The initial priority products list we are drawing from the intersection of those two sets, which are

chemicals that appear on at least one hazard trait list, and at least one exposure indicator list. So of the 1,100 or so chemicals on the longer list, we were drawing from a pool of about 150.

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SENIOR ENVIRONMENTAL SCIENTIST ALGAZI: The sort of overarching consideration in deciding what products to identify as priority products with chemicals of concern, there has to be potential exposure to the candidate chemical in the product, and that potential -- there has to be a potential for that exposure to contribute to or cause significant or widespread adverse impacts. So those are the things we had to bear in mind as we were looking through all of the various candidate product chemical combinations that were suggested to us and ones we came up with on our own.

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SENIOR ENVIRONMENTAL SCIENTIST ALGAZI: So on March 13th, we had a press event in this room, and we announced the first three products. So we had a limitation in our regulations of no more than five in the initial list, and we've got these three. And I'm sure you're all familiar with what they are.

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SENIOR ENVIRONMENTAL SCIENTIST ALGAZI: The first

the children's foam padded sleep products with TDCPP, chlorinated tris, which is a flame retardant chemical that is added to polyurethane foam. For this category of products that we are identifying here on our initial list, there is no regulatory requirements to add a flame retardant. And the chemical -- the chemical itself is carcinogenic and has a number of other hazard traits, so it seemed like a -- it met some criteria for a good product for our initial list.

The second one is paint strippers, paint and varnish removers with methylene chloride, chlorinated solvent, again carcinogenic, also acutely toxic. There have been cases of death from people using this product in both do-it-yourself and occupational settings. And then the third is spray polyurethane foam systems with unreacted diisocyanates. So these are one- and two-part products that are used to produce a rigid foam that's used for sealing and insulating, filling cracks. It's used in roofing sometimes, and chemicals -- the diisocyanates, of which we have several sort of in the general group, are respiratory sensitizers asthmagens.

People who are repeatedly exposed can have acute asthma that can cause death and there have been again a number of instances. So we've got a children's product and a couple that are both sort of occupational and do it

yourself exposures.

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SENIOR ENVIRONMENTAL SCIENTIST ALGAZI: This slide you may have seen before. I think we've used it at the public meeting we held here on March 17th, sort of lays out in a timeline where we are in this process. March 13th we announced the draft initial priority products list. And we have several public workshops scheduled to talk about the initial priority products list on each of the three products. So we got a format of sort of a plenary session, and then breakout sessions for each product.

Later this year, we will begin a rule-making process to formally adopt the initial priority products list. That process includes a public comment period, a public hearing. And the rule-making law that we adopt the regulations under allows us no more than a year. So from the public notice state to finalizing the regulations will be a year or less, probably a year.

At that point, there are some regulatory requirements. Reporting by manufacturers and other responsible entities, and notifications, I should say, and then preliminary alternatives analysis reports to follow on after that.

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SENIOR ENVIRONMENTAL SCIENTIST ALGAZI: This slide just shows you the three subworkshops. I don't know if any of you are in California and are interested, we have one here in this room, one in Oakland, and one in Los Angeles.

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SENIOR ENVIRONMENTAL SCIENTIST ALGAZI: So with that, I'm going to hand it over to my colleague Hortensia Muniz who's going to talk about the three-year priority product work plan.

CO-CHAIRPERSON MORAN: But first, although this is just context, after each presentation we'll give the members of the Panel for clarifying questions. This is a very short context presentation, so I'm probably gathering there won't be any. But if there any, now would be the time to ask them of Andre.

And I can see that Don has one.

PANEL MEMBER VERSTEEG: Of course I have a question. Just real quickly, you went through that timeline for the initial three products, the workshops, and --

SENIOR ENVIRONMENTAL SCIENTIST ALGAZI: Right.

PANEL MEMBER VERSTEEG: Will that apply to the next set of products that are identified or is that kind of just for the first set of three?

SENIOR ENVIRONMENTAL SCIENTIST ALGAZI: So for every product that we add to the priority products list, we will need to do so through a rule-making process. So Hortensia is going to talk about the workplan. That isn't a rule-making process to prepare and finalize the workplan. But before anything is officially formally a priority product with a chemical of concern, we do need to go through that administrative process to adopt regulations.

PANEL MEMBER VERSTEEG: Thank you.

CO-CHAIRPERSON MORAN: All right. Any other questions?

And as we transition over to Hortensia, I should let everyone in the room know now the WiFi is now working. So if you're trying to connect, you can do that. And hopefully that will simplify our ability to bring Bill Carroll in when he becomes available in a few minutes.

So our next speaker is Hortensia Muniz. And she'll be giving us a briefing on this process for the priority product workplan. Thank you. Welcome, Hortensia.

SENIOR HAZARDOUS SUBSTANCES ENGINEER MUNIZ: Thank you.

CO-CHAIRPERSON MORAN: So if you don't mind just briefly introducing yourself since most folks here don't

know you.

SENIOR HAZARDOUS SUBSTANCES ENGINEER MUNIZ:

Good morning and welcome to all of the former Green Ribbon Science Panel members and welcome to all the ones that are joining us for the first time. I was one of the reg writers that worked on the SCP regulations that we're now implementing. I worked primarily on Articles 5 and 6, and then of course accreditation bodies that got eliminated later on. So that's kind of my background.

And right now, I am working in helping in assisting and implementing the regulations. And one of the tasks that I've been taking on is the development of the three-year workplan.

So let's get started. Let me see if I don't mess something up.

Do I push the -- which one?

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SENIOR HAZARDOUS SUBSTANCES ENGINEER MUNIZ:

Okay. There we go. As you might know, the regulations require that DTSC make public a three-year workplan on October 1st of this year. It must include priority -- or product categories. It doesn't require that we identify the product chemical combinations, except for just that we evaluate product categories that must be evaluated in the next three years. And then from those

product categories, we will identify product chemical combinations that will later go through a rule-making for inclusion in the priority products list.

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SENIOR HAZARDOUS SUBSTANCES ENGINEER MUNIZ: The priority product workplan can be amended two ways. One can be when we are required through executive order by the Governor. And that would have been the case whether we had mentioned it in the regulations or not, but it was something that we were asked to include, and we included it.

And another way that it could be amended is if there's petition that is granted. If you're familiar with the regulations, there's an article that you can petition the Department to add a chemical, add a product, or remove a chemical or a product. And if we grant one of those petitions, then the workplan can be amended, so that we can included it in that next round of priority products.

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SENIOR HAZARDOUS SUBSTANCES ENGINEER MUNIZ:

Currently, we have -- we're set to make available a public version of the three-year workplan first part of August, and then have a workshop sometime during that month, and then close the some -- the public comment period at the end of that month. Give us enough time to

just collect the comments that we receive, evaluate them, and see what amendments or changes need to occur in that three-year workplan.

So there will be plenty of time, so do stay tuned to that, that you might want to participate in that process as well.

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SENIOR HAZARDOUS SUBSTANCES ENGINEER MUNIZ:

Right now, where we're looking at product categories, we want the product categories to be broad enough to allow us to look at a variety of products within that category. For instance, personal care, there's a lot of stuff that comes in under product -- a lot of products could potentially be under product categories. But then we want them to be specific enough, so that the manufacturers of those products can then begin to make some meaningful changes to the products that they manufacture, if they should contain some chemical or a candidate chemical of concern.

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SENIOR HAZARDOUS SUBSTANCES ENGINEER MUNIZ: And that is it.

Is there any questions?

CO-CHAIRPERSON MORAN: Thank you, Hortensia. If you have questions -- Helen already knows this. Thank

you -- thanks to our esteemed former co-chairman, Bill Carroll, we've adopted a practice that's used by a number of other groups that if you're wishing to speak, you can signal that to the co-chairs by moving your name tag up. So we're calling it the flag. And Art and I will keep track of whose put up their name tags. Although, I didn't see if Helen or Mike was first.

And so if you want to talk, just put that up at any time. And again, just for right now, just clarifying questions. If -- some folks here -- and I'm going to stare at Dr. Malloy, will -- are very good at asking extremely detailed informational and clarifying questions. And I would ask that if you really have that kind of question, maybe it's not informational and clarifying that we save it for the discussion.

So with that, clarifying questions. First Mike and then Hellen.

PANEL MEMBER CARINGELLO: This is Mike Caringello. With the three-year plan, is it -- do you go through the three-year plan and then do your next three-year plan at the end of that cycle or do you come up with a new three year -- what is the period -- I can't say the word of that.

SENIOR HAZARDOUS SUBSTANCES ENGINEER MUNIZ: The three-year work plan will identify product categories that

will be addressed during that -- those three years, but there is nothing preventing you from doing say a regulation during those three years. So in other words, you could be doing a number of them say even three or four or five depending on how many you select to the product chemical combination status, so that you can public notice it, and then do regulations.

It doesn't mean that we will only have one set of priority products through that cycle of three years. So there could be a number, and it's -- there's no -- the regulations don't limit you, so it leaves it very broad for us, so that we can exercise discretion on to how many we need to do or how many we have information on to carry forward to a regulation.

BRANCH CHIEF PALMER: And let me just add -- this is Karl Palmer -- that -- also Mike, that it's a cyclic thing is that before the end of the second year of the plan, we're going to work on the next plan. So it will just a recurring cycle.

PANEL MEMBER CARINGELLO: Thank you.

CO-CHAIRPERSON MORAN: Helen.

PANEL MEMBER HOLDER: Hi. I was wondering, are you planning on setting the product category classes, at some point, to give the regulated community a sense of what those classes might be. So, for example, you said

that you wanted them to be broad, but enough to give you some flexibility, but narrow enough to be specific.

So, for example, you know, would the category be electronics or something narrower? I guess my question is do you plan on doing work in advance or as part of the workplan to kind of set up some of those major categories that you might then go into later in the future?

SENIOR HAZARDOUS SUBSTANCES ENGINEER MUNIZ: Yes. And we do plan on doing as much work as we possibly can before, so that we can make them as specific as possible and provide the proper market signals. However, if we do not have sufficient information to make it that narrow or that specific, we would go to the more broader category, so that we could still pursue that product category, and then through the process -- in that three-year cycle narrow it down to specifically the products that we're interested in.

PANEL MEMBER HOLDER: Just to clarify, so I guess the question was what about categories that are not specifically targeted in that cycle? So the question is, are you going to have a list of 10 or 20 product categories for future workplans as well, just to -- so that the regulated community has a sense of where you might go to, as opposed to just the ones that are relevant to that three-year workplan.

SENIOR HAZARDOUS SUBSTANCES ENGINEER MUNIZ: Right now, the way -- and it's still subject to change, but the way we're strategizing to address it is that the regulation is very clear is that we can only pursue those product categories that are identified in that three-year workplan.

So say, for instance, we identified three personal cares, home maintenance, outdoor products, and then yet there is electronics that pops up, we really could not address electronics unless it's submitted to us through a petition, and that petition is granted, and then we can pursue it in that three-year cycle.

So only if it's brought to us through a direction -- you know, through executive order or it's petitioned and granted, and then we have sufficient information to move forward with it.

CO-CHAIRPERSON MORAN: All right. Other clarifying questions?

Yes. Sorry, Cal.

PANEL MEMBER BAIER-ANDERSON: Cal Baier-Anderson. Is there -- how do you define the universe of products? Is there a master list that you can go to? Has someone assembled it somewhere on the internet or --

SENIOR HAZARDOUS SUBSTANCES ENGINEER MUNIZ: The universe is really everything, and that's something that

we tried to narrow and make more specific when we were adopting regulations. But if you look at the statute, it doesn't. It just covers virtually everything. And there's some exclusions, and I can't cite them off the top of my head, but it's pesticides out, for instance, medical appliances of some sort are out. But other than that, everything is fair game.

PANEL MEMBER BAIER-ANDERSON: But so I guess what I'm asking is, has someone compiled a list of product categories that might be kind of useful to --

SENIOR HAZARDOUS SUBSTANCES ENGINEER MUNIZ:

There is a number of product category lists out there. They're not all consistent. In fact, part of the exercise that we've been doing internal to try to see how can we provide the proper market signals by being consistent with some of those other classifications is that they're not consistent. They're -- you know, when you look at children's products, they range in ages, how they define what's a child's product, what's -- and so it's -- there's not.

So that's one area that we would have to make fairly clear at least in the three-year workplan, how we define those categories at least for purposes of that workplan, or at least for those three years.

There might be the case that we might have to

change that product category in future years, because it just doesn't -- you know, we'll just have to learn as we go, but no -- the short answer is we are working on a list, but no, there is not one consistent one out there for us to use, so that we could be consistent with.

PANEL MEMBER BAIER-ANDERSON: Thank you.

CO-CHAIRPERSON MORAN: All right. Thank you. And seeing nobody else with their flags up, I think this goes back to Meredith briefly. Are you going to say a few words here, before Andre starts?

DEPUTY DIRECTOR WILLIAMS: Just a few words, which is to say that we have not -- there is no formal mechanism for the graphs to weigh-in on the workplan at this point. Based on the discussions over the next two days, we may decide that some kind of teleconference or some kind of meeting is warranted to talk about the workplan and to get more of your input around it.

Of course, the GRSP members can comment on the workplan the same way the public or anybody else can comment on them through the workshops and during the comment period on that workplan. So I did want to make sure that you were aware of that.

And then Andre is going to talk again, and he's going to talk about what it was like to choose these products, what we learned, and how we're taking those

lessons forward in terms of shaping the program for the future.

SENIOR ENVIRONMENTAL SCIENTIST ALGAZI: Thanks, Meredith.

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SENIOR ENVIRONMENTAL SCIENTIST ALGAZI: So let me dive right in. So first I will talk a little bit about this document that I think most of you have seen. This is the product profile that we prepared for the three initial products. And the elements in it -- one of the questions that we put to you all was the effectiveness -- about the effectiveness of this format in communicating the basis for our decision to select this -- these three product chemical combinations.

So the general format we followed sort of arose through sort of an iterative process that the team worked through as we were going -- investigating all of these suggestions and ideas for possible priority products. And the format that we settled on starts with the identification of the chemical, its synonyms, CAS numbers, physical chemical properties, things like that.

And then we go to a section that describes the product category. And this is sort of relevant to the question that Hortensia was just talking about. We try to, when we could, to correlate the product category that

we were identifying in the profile with the GS-1, the global product classification system, which is a system that, those of you in industry are familiar with I imagine and it's sort of a taxonomy of consumer products. In some cases, the product category that we're trying to name, either was a subset of one of the attribute values of the GPC or may straddle more than one category, so it was a bit of a challenge, but we do address that in the profile.

We then have a section that identifies the hazard traits and exposure potential and highlights of the chemical and the exposure potential of the chemical in the product. Talking about sensitive subpopulation, such as children and workers, and environmental receptors. We also have a section that talks about the market presence of the product, to the extent we are able to glean that information. And that is another challenge that we'll talk about.

We also tried to identify other regulations of the priority products by other entities within California, nationally, and other states, internationally. And then finally, we have a bibliography list of reference at the end, our sources for compiling the product profile.

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SENIOR ENVIRONMENTAL SCIENTIST ALGAZI: So in coming to this first initial draft priority products list,

we did have face a number of challenges that we won't have in subsequent rounds, many of them. One of them was the fact that we started on this product selection process before the regulations were final. The chemicals list were somewhat in flux, so we were working with sort of a moving target.

As I mentioned just previously, we also wrestled with defining the product. And one of the reasons for having these public workshops is to make sure that we've actually captured what we intended to in the description in the words we've used, and the references to GPC, because as Hortensia mentioned, sometimes when you're looking at a product and it's intended for -- in some of statutory bans, like the led -- the children's jewelry law, it talks about jewelry intended for children. And that can be kind of a hard thing to define, for example.

The other process sort of challenge that we had was verifying that the candidate chemicals we were -- these were suggestions in many cases. We had to confirm that the chemical is in the product or is still in the product, and that it's on the -- in the market in California.

Also, with regard to the product, understanding the supply chain. For example in the case of the children's foam padded sleeping products, the product may

be manufactured, assembled from other materials -- intermediate materials like polyurethane foam that's already been treated with the flame retardant, for example.

So we had a team of -- a sort of multi-disciplinary team at DTSC that worked on researching these profiles, including a range of scientific expertise. We had regulatory experts. We had our attorney. People with background in the industry. We also did consultant with some of our sister agencies. We don't have as much expertise in understanding market and analysis.

(Thereupon a phone rang.)

SENIOR ENVIRONMENTAL SCIENTIST ALGAZI: Shall I continue?

CO-CHAIRPERSON MORAN: Yeah, we're -- the call coming in for everyone's information is Bill Carroll who's going to be joining the meeting. And so when we get to the point that he's on the mic, I'll ask Andre to break, but please continu.

SENIOR ENVIRONMENTAL SCIENTIST ALGAZI: Okay. Just let me know.

--o0o--

CO-CHAIRPERSON MORAN: So go ahead.

SENIOR ENVIRONMENTAL SCIENTIST ALGAZI: Okay. I'm going to continue. So I wanted to talk a little bit

about some of the lessons we learned as we went through this process of vetting dozens, maybe 50 or 60, suggestions and getting down to our initial list of three. One is the importance of screening. And as I mentioned earlier, one of the challenges of screening -- you know, the basis for screening things might be that the chemical -- candidate chemical may not have met the criteria that it had to be on one of the blueberry lists and one of the grape lists, the hazard trait lists, and exposure potential lists.

Another is that we may not -- whether or not we can find evidence that the product is actually in the market in California. So that was -- that's an important lesson and we will continue to sort of do our best to have an efficient and effective way of screening, so that we can narrow our focus to the products that are most promising under the criteria in the regulations.

Secondly, we had a group of toxicologists, DTSC toxicologists involved in the team and they really were invaluable. They were participating in every meeting. They reviewed every document we prepared, and we really couldn't have produced the documentation we did and done the research we did without their involvement. So that was a positive lesson learned.

Another lesson we learned was the importance of

talking with our colleagues at other State agencies, BDOs is our sort of internal acronym, board, department, and office, which refers to the other five boards, departments, and office within California EPA, as well as federal EPA. We got a lot of suggestions from these colleagues. We also enlisted them, in some cases, in reviewing parts of our documentation. So going forward, we'd like -- as -- we'd like to increase our transparency and information exchange with industry. The workplan is one avenue for doing that. The development of the workplan, as Hortensia mentioned, as I mentioned, we will be having a public workshop to talk about the priority products workplan. We will be choosing a subcategory of all that infinite universe of products that we possibly could address, so that we're sending a signal, so that people in the affected industries know who we might be, whose products we might be looking at.

And then the last lesson is that we need to beef up our toolkit and our expertise in understanding the market for products. And so that's something that we're also very aware of.

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SENIOR ENVIRONMENTAL SCIENTIST ALGAZI: So I'm kind of shifting gears with this slide. And this is a rearrangement of the earlier Venn Diagram that showed the

two sets of chemical lists that we drew from in compiling the candidate chemical list that was -- that's identified in our regulations that we published last year. And so we have about 20 -- let's see. There were 23 lists depending on how you count them. About 15 of those would fall under the general heading of hazard trait lists, and the blue circles show some of the categories that they fall into neurotoxicants, developmental, mutagens, carcinogen. So we had a number of authoritative lists that we used to compile our list.

And then we have the larger sort of purple circles represent the exposure potential lists. Some of those had to do with air quality, water quality, some human biomonitoring lists. So that's the ingredients that form our candidate chemicals list.

I'm going to go back before I switch. So we're working from just eight authoritative exposure lists that are identified in the regulations. And really one of the things that we'd like to check in with the Panel on is are there other potential exposure -- of exposure potential lists or data sources that we might consider to help inform our future product selection, within the parameters of the workplan obviously?

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SENIOR ENVIRONMENTAL SCIENTIST ALGAZI: So for

example, emerging contaminants may not have yet made it onto one of those lists, whether you have any insights on sources of market data. We did purchase some market reports in researching the products that we've listed in the initial list. We would like to learn about other data sources that you might know about.

And as well, data sources for sensitive subpopulations. We had pretty good data for workers, but maybe less so for environmental or children, things like that.

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SENIOR ENVIRONMENTAL SCIENTIST ALGAZI:

And that is what I have for slides. I'm happy to take questions. And then I guess after that, the public comment period -- public question period.

CO-CHAIRPERSON MORAN: So before we go to questions, thank you very much, Andre. And before we go to questions, Bill Carroll is on the line. And so I want to make sure we're connected with him, and hopefully we are. And if so, let him introduce himself.

Bill, are you there?

PANEL MEMBER CARROLL: I am. This is Bill Carroll. I work for Occidental Chemical Corporation in Dallas. And today, I'm in D.C.

CO-CHAIRPERSON MORAN: And thank you very much

for joining us. We can hear you loud and clear in the room. And you can hear us okay?

PANEL MEMBER CARROLL: Very well. Thank you.

CO-CHAIRPERSON MORAN: All right. And hopefully we'll have worked out. We have a little flag for you in the room. And I'm hoping that -- do you have an ability to signal someone in the room, so we can indicate when you want to speak?

PANEL MEMBER CARROLL: Yeah, I'll send Corey an email.

CO-CHAIRPERSON MORAN: All right. We'll be looking forward to that, and will tip your flag up and make sure that you can participate as well as you can. So we're glad that you can join us. Art previously thanked our esteemed co-chairs, and you missed this, for setting us on such a good course. So I want to pass along that thanks. And there was a lot of head nodding and recognition of that. So we appreciate the extra effort that you're making to connect with us today.

PANEL MEMBER CARROLL: Well, thanks very much, Kelly.

CO-CHAIRPERSON MORAN: So, at this point, we'll take informational clarifying questions for Andre. And right after that we'll be moving to the public comment period. So if you wish to make a comment and have not

already given your card to Radhika, please do so right away. And I see Mike has his flag up, and that's the only one right now.

CO-CHAIRPERSON FONG: Julia.

CO-CHAIRPERSON MORAN: Oh, I'm sorry. Julia. So Mike then Julia. Oh, and Tim. Oh, wow. Thank you very much. So Mike, Julia, Tim.

PANEL MEMBER CARINGELLO: This is Mike Caringello. On the candidate chemical list, as you said, it's comprised of those various lists. As those lists grow on their own independently of the California regulation, can the -- does the candidate chemical list automatically grow as well to include whatever chemicals they add or remove from those lists, or is the candidate chemical list created and static now in and of itself?

SENIOR ENVIRONMENTAL SCIENTIST ALGAZI: So the answer is kind of both. There are a few constituent lists that we've identified that are documents, versions that were published as of a certain date. Those don't change unless we amend the regulations to incorporate the revised document.

In the case of other of the constituent lists, for example, the Proposition 65 list, if that's amended to add a different -- an additional chemical for example, that chemical would become a candidate chemical. And

periodically, we will be updating the candidate chemical list on our website to reflect those changes. So it's sort of yes and no.

CO-CHAIRPERSON MORAN: Julia then Tim.

PANEL MEMBER QUINT: Julia Quint. I had a question. I just wanted to clarify, when you said you looked in California for whether or not the products were available in California, you did -- did you look for chemicals first or did you just go -- because I know we're dealing with chemical product combinations and not just the chemicals of candidate chemicals.

SENIOR ENVIRONMENTAL SCIENTIST ALGAZI: So I'm thinking of specific cases. We really were looking for the product chemical combination. The ones that we looked at that didn't make the cut, in a couple of cases, were because there might have been a product that sort of met the same functional requirement that didn't contain the candidate chemical.

PANEL MEMBER QUINT: I had a part B to my question. You mentioned that you had data for workers. Was that exposure data? I forgot what you were referring to?

SENIOR ENVIRONMENTAL SCIENTIST ALGAZI: Yeah, I think it's just there's a lot of publicly available data, so we were able to find that more readily. Does anybody

want --

PANEL MEMBER QUINT: Because that's been a challenge for -- in a lot of ways of finding actual exposure monitoring data for a lot of chemicals.

SENIOR ENVIRONMENTAL SCIENTIST ALGAZI: Well, we found instances of harm. And keeping in mind that the regulation, sort of, the framework is that we have to have potential for exposure to the chemical in the product and the potential for that exposure to cause or contribute to significant adverse effects. So that -- when I say we had worker data, we did have a lot of data in that respect.

PANEL MEMBER QUINT: Okay.

CO-CHAIRPERSON MORAN: Tim.

PANEL MEMBER MALLOY: Thank you. I'm wondering if you could say something more about the screening process that you used to get from the 153 -- the 153, I think you said, chemicals down to the three in the product, in the sense of like did you collect data -- as much data as you could on all 153 or was there kind of like a tiered process where you kind of limited it down on certain aspects, and then dove in more on others?

SENIOR ENVIRONMENTAL SCIENTIST ALGAZI: We really didn't approach it from the standpoint of trying to narrow down the chemicals list, and then look for products. As I mentioned, we had a lot of suggestions and nominations of

products to consider, so we kind of were working from that end, and then checking it against the chemicals list. So we were considering -- there are a number of considerations that are spelled out in the regulations, and we were looking at all of those from the standpoint of the product in most cases.

In some cases, we got a suggestion for a chemical, and we would try and identify products that contained it, but we didn't attempt to sort of winnow down the 153 to a more manageable number and then look for products. That's not the way we approached it.

CO-CHAIRPERSON MORAN: All right. I'm not seeing any other flags here, so I think that we're ready to move on to the public comment. And I want to thank you again, Andre.

SENIOR ENVIRONMENTAL SCIENTIST ALGAZI: Thank you.

CO-CHAIRPERSON FONG: Andrea and Hortensia, excellent presentations. Thank you very much. So the DTSC presentations on the three-year workplan and the priority products selection process has concluded. Before we get to the Panel discussion on this topic, we're going to open up 15 minutes for public comments. Let me just remind the public that this is a working meeting for the Green Ribbon Science Panel, so the Panel members are not

going to be able to respond to your comments or answer your questions. And also, please remember that comments should be directed at the Panel members and not DTSC at this time.

And since we have 15 minutes, and we have six cards submitted for making comments -- is there anybody else -- if you're interested in making a comment, please fill out one of these cards and give it to a member of the DTSC staff.

Okay. If not, the first person who has signed up to make comments is Glenn Rucker from the Polyurethane Industry representatives. And oh, yeah, given the fact that we have six commenters and we have 15 minutes for the comment -- for the public comments, I'm going to ask the commenters to please limit their comments to two minutes.

Glenn.

MR. RUCKER: I hope I can do that.

I came thinking that polyurethane foam would be outlawed in the State. And being having spent about 50 years in the polyurethane industry, I'm still working it at 73. I didn't want to have that happen.

I had hay fever in Oregon where I was raised. And I went in the service in '63, and found out that there are places in the world that you don't have hay fever, and I found it didn't rain all the time.

I came back in '66 and went to college and got a degree in chemistry. I went to work in a polyurethane polyester resin business. I found out I was allergic to styrene and polyester resins. It gave me flu symptoms, so I got out of polyester resins.

In all the years I've worked in technical field sales nationally, I've met people who are allergic to urethane foam. It can cause labored breathing, some -- I met one guy that broke out in hives. I saw the same reaction with people who have had allergic reactions to -- are allergic to tomatoes, chocolate, dairy products, seafood, and food additives. My sister is one. So those things you don't do.

When I chlorinate my people, I don't carry the bucket like this, because of the chlorine. When I worked in metallurgy on a part-time job etching metal blends, hydrofluoric acid was one of the chemicals that we used to etch the metal to get the cell structure or the component structure. It also etches glass. I didn't wash my hands in HF. There are just things you don't do.

The people we've found in the industry that have any allergic reaction to isocyanate, and it's picked pig up quite quickly, are not given the job. Now, it's not against their rights. They just can't do it.

Most of these people smoke. Most of these people

had asthma before they came to work. Asthma -- in Oregon arthritis is the big thing, because of the dampness. In California, asthma is the big thing because of the air pollution, in Northern and Southern California and Central California.

I know maybe 100 people in Fresno have worked in the urethane foam industry for years and years and years. I know thousands of people, or met thousands of people, and talked with people and new thousands of people who have never been closed to polyurethane foam who have asthma.

So that's -- I'm just -- I've been in it 50 years. They're -- you just don't stick your head in the bucket. We have -- we've instituted in recent years safety programs, which the crews go through, in handling urethane foam chemistry. The overspray --

CO-CHAIRPERSON FONG: Mr. Rucker, may I ask you to wrap-up your comments, so we can accommodate the other people who are interested in making comments, please.

MR. RUCKER: Can I say one more thing?

CO-CHAIRPERSON FONG: Oh, absolutely.

MR. RUCKER: Okay. The overspray has been something that's come up. What about the overspray? Well, the product is sprayed at high -- like 1,000, 2,000, 3,000 PSI and atomizes and it will -- you have overspray.

It also sticks to your car. It sticks to your glasses. It sticks to your clothes. So we discourage people from watching our jobs. And if they're out of direct contact with it, they will never see it.

Anyway, I have a lot more to say, but I won't. Thank you.

CO-CHAIRPERSON FONG: Thank you very much.

The next person interested in making comments is Mr. Tim Shestek, S-h-e-s-t-e-k from the American Chemistry Council.

Tim.

MR. SHESTEK: Good morning. Tim Shestek with the American Chemistry Council. I'll try to be brief. I think I just wanted to make a couple of comments relative to what Andre was referring to, in terms of the transparency and how the information may have been rolled out and how this Panel might be helpful in suggesting some opportunities and ways in which the Department can let the public, and especially the regulated community, know a little more about the process by which some of these things were identified.

And so I think specifically I would suggest this Panel take a look and perhaps offer some suggestions on how the Department may better describe and explain in more detail the prioritization process that the Department

undertook and how that may have been applied to some of the priority products.

And then secondly, I know we've been getting a number of questions from some of my member companies about the scope of the identified products in the initial roll-out. Are we talking about commercial applications? Are we talking about do-it-yourself applications?

There was a little bit of confusion there. Perhaps it's all of the above, but I think just going forward if this Panel might have some suggestions to the Department on how best to clarify that, so there are some of the folks in the regulated community might have a better understanding of the direction they're headed and how they might engage the Department.

So with that, I do appreciate the opportunity make a few comments today.

Thank you.

CO-CHAIRPERSON FONG: Thanks very much.

The next public commenter is Will Lorenz with General Coatings.

Will.

MR. LORENZ: Hello. My name is Will Lorenz. I work for General Coatings, a california company producing spray foam systems in Fresno, California. I would like to thank the distinguished Panel for the opportunity to

participate in this important process. I would also like to convey the following comments to enhance the product profile content on spray foam prioritization.

In the spray foam, the problem identified section, the statement that diisocyanates are a group of low molecular weight organic compounds used in the production of polyurethane foams in SPF systems does not convey the appropriate prioritization. Spray foam contains only MDI diphenyl methylene diisocyanate, a large multiple benzene ring compound.

Additionally, throughout the profile, there is too much emphasis on TDI, a single benzene ring compound as a source for isocyanate exposure, risks, and asthma.

TDI is significantly more volatile than MDI, as the profile states, thus significantly more a health risk. To aid conveying the appropriate profile content, the statement that priority report -- however, TDI may be found in SPF systems, either as a minor component or as a residual constituent is absolutely false. MDI is made from separate manufacturing trains using different raw materials. Aniline versus toluene.

Further, the spray foam system produces only -- like myself only by polymeric MDI, and we don't formulate with TDI, so there is no TDI present in closed cell spray foam used for roofing or for wall insulation.

In the spray foam prioritization, one assumes that spray foam means SPF. However, in the important comments section in the report, it does not convey the appropriate content. Some SPF systems in the market today are SPF systems containing polyurethane based coatings, sealants, adhesives, which are likely to contain TDI.

First, spray foam is not a coating or an adhesive. MDI spray foam does not contain TDI, so the conclusion reached does not appropriately convey the prioritization.

Also, beneficial to the prioritization report would be studies on properly applied spray foam to clarify the statements on uncured or unreacted isocyanates present in spray foam. Industry hygiene data does not support such conclusions and routinely allows -- routinely shows that spray foam does not contain isocyanate near or above the PEL or TLV.

CO-CHAIRPERSON FONG: Mr. Lorenz, may I ask you to wrap up your comments, please.

MR. LORENZ: I'm finished.

CO-CHAIRPERSON FONG: Great. Excellent.

MR. LORENZ: Thank you.

CO-CHAIRPERSON FONG: Just a reminder that the comments to the -- you know, the public comments are actually supposed to be directed at the Panel members. So

if you have, you know, comments that you want to make to DTSC on the specific priority products, the best mechanism to do that is actually to attend one of the DTSC public workshops on those priority products.

Thank you.

The next person we have is Mitch Fine. And Mr. Fine, I don't see an affiliation on your card.

Mitch.

MR. FINE: I'm the CEO of Armstrong Insulation Services. We're a installer of spray polyurethane foam in the Bay Area. I do direct my comments to the Panel. Specifically, that the product profile content for SPF is insufficient for conveying the basis for the product's prioritization.

Also, the data supplied in that document does not comply with Title 22, Section 69501.1(a)(57). Because the time is limited, I'll direct my remarks specifically to the claim that the -- made in the priority product profile regarding spray polyurethane foam document dated March 2014 on page 12, quote, "Exposure to isocyanates is a leading attributable cause of occupational asthma".

When I spoke with the EPA and I spoke with OSHA, they said that this was the main reason that this had been included as a product prioritization. Again, I understand this Committee's job is not to take testimony regarding

the appropriateness of a specific product being included. However, it is your responsibility to make sure that the published information that you do produce provides the public and the larger -- and the community with the information so that they can determine how your decision is made, and the science which that decision is based on.

If you go to your website and you look at the Committee meetings and also the subcommittee meetings, Subcommittee Number two, which was charged with the identification of products, you'll see that the minutes stop in 2011. When I spoke to the informational officer that was charged with providing the public with that information, she said that she was also wondering where those minutes were and where those subcommittee minutes were.

So again, what happens is you go to 2011, you see this very intricate processes for how these chemicals were going to be selected, and then you come out in 2013 -- end of 2013 and you see the actual products that were selected, and there's no public process for how it was done. We heard the gentlemen earlier talk about how there were nominations, but that's on -- that was not a public process, and there's no public data anywhere that shows how those nominations were made.

And I also saw letters from the subcommittee

talking about that process. And so I really question this panel whether or not that was a public process, and whether there was any data on that at all.

So because my time is limited, I just want to talk to, finally, there was a study done that is referred throughout this document priority product profile, and the study was done in 1988 by C.E. Mapp, and this is the seminal load star study for isocyanates being the number one or leading cause of occupational asthma in the western industrial world.

This study dealt with 162 workers in a furniture factory that had nothing to do with spray polyurethane foam. They were varnishing. And the study basically ends with saying we need to look at red cedar asthma. We also need to look at other studies, longitudinal studies. It was inconclusive with respect to spray polyurethane foam, which you hear earlier does not contain TDI, it contains MDI.

There were only eight, eight, eight individuals who even fit into that category. And then extrapolating from those eight, 57 percent, approximately four, another three were eliminated, so one individual who was exposed to MDI in this study developed symptoms that were similar to occupational asthma. And from this, this body deduces that SPF is the leading occupational cause of asthma in

the western United States.

That does not comply with your rule in terms of scientific reliable information. So I would ask this body to please go back look at your sources, look at your studies, and please provide the information, so the public and people like myself who make their livelihood with these products are not more negatively impacted than we have been by the publicity that your report last month was given in the media and the negative comments that were made about these products.

Thank you very much.

CO-CHAIRPERSON FONG: Thank you very much.

The next commenter is Tom Jacob.

CO-CHAIRPERSON MORAN: Briefly, before we go on, since I was a member of the subcommittee that was being referred to, we should clarify that the Green Ribbon Science Panel's subcommittees ended with those minutes, so there's nothing hidden. There's nothing that's not on the website. There's no untoward process out there. And I didn't feel comfortable leaving that allegation standing.

That business was concluded, and it was discussed in a public meeting of the full Committee, and then it was taken back over by the Department. So there's no meetings of the Green Ribbon Science Panel or its subcommittees that are not recorded and presented on the website. And

there was no action of the subcommittees subsequent to the meetings that were there. So there's nothing hidden.

So now we can go back to the comments.

MR. JACOB: Tom Jacob on behalf of the Chemical Industry Council of California. My queries were largely anticipated by the second half of Andre's presentation and Tim's question, and the other Tim's comments. But I'll just summarize by saying that for us there is an imperative for this process to move forward to really develop a disciplined process for integrating the hazard trait and exposure considerations in a way that yields the prioritization of focus that we think is also an integral part of the laws and should be an endpoint into the degree that this group can help to evolve a more disciplined approach. Once we get beyond this overlap of actual exposure and hazard traits that guided us to the 153, it will be most appreciated.

Thank you.

CO-CHAIRPERSON FONG: Great. Thanks very much, Tom.

Next commenter is Greg Gordon from Technology Sciences Group.

DR. GORDER: Hi. Thank you for the opportunity. Technology Sciences Group is a consulting firm that helps companies with all of their regulatory issues with toxic

chemicals and products, including companies here and other ones that are not as up on this. And obviously, we'd like to help them guide them in ways that don't bring them into this circle.

But relative to being in this circle, there's the alternatives analysis. And I find the current group and process kind of interesting, because the flame retardant in the mats is a single chemical and a limited group of products. It seems almost certain that there are not going to be alternatives analysis based on that product.

On the methylene chloride in the paint strippers, I don't have information to give, but, you know, unless there are specific uses that make that critical also. And so as we've already heard, the focus is on this whole thing is with the spray foam. And, I mean, the isocyanates are a core monomer in this product that make the product what it is.

And so it's -- it certainly is a challenge, if it goes through alternatives analysis to reinvent polyurethane foam.

The other thing that really -- and I don't know how this Panel gets -- you know, defines or interacts with this, but the exposures that have been articulated as a concern have been the worker exposures. And so far, there's been no definition of a residual monomer on an

ongoing basis, if it's an issue or not.

And I think, you know, definition of that will affect if this product, you know, can continue in California. And I don't know if that's part of the purview of this Panel or not. But anyway, I see that as a key issue.

Anyway. Thank you.

CO-CHAIRPERSON FONG: Thanks very much.

DEPUTY DIRECTOR WILLIAMS: This is just a point of clarification about the relationship of the Green Ribbon Science Panel to the product profiles. They are not going to advise the Department on the scientific content of those profiles, and that -- they haven't been charged with that, so we will take the comments into advise -- under our -- into consideration from the staff level, but the GRSP itself will not be tackling that.

CO-CHAIRPERSON FONG: Thank you very much for clarification, Meredith.

The last commenter for the priority products topic this morning is Nasim Mullen from Gap, Incorporated.

MS. MULLEN: Hello. I work for the product safety and regulations department at Gap, Inc. And we weren't affected by the priority products chosen this time. We've been following the regulation with great interest. And just one consideration for future selection

is that it appears that unlike other regulations that we comply with, that this regulation requires you to notify if you saw the priority product, regardless of whether the chemical of concern is actually present.

So there was some mention of some considerations that went into deciding how broad or specific the product categories were. So it seems that if the category is too broad that this could create quite an administrative burden, if every, you know, manufacturer and/or retailer of the product must report -- or notify that they're selling the product. So just a consideration for future product selection.

DEPUTY DIRECTOR WILLIAMS: Can I respond?

CO-CHAIRPERSON FONG: Yes.

DEPUTY DIRECTOR WILLIAMS: Just to be clear, the priority product is not the priority product unless it contains the chemical. So it's a product chemical combination. It is specific to the -- not the larger category.

CO-CHAIRPERSON FONG: At this point on our agenda we have a 15-minute break. And the Panel members again are reminded of the Bagley-Keene requirements. And we'll reconvene at 10:30, at which time we will start our priority products discussion.

Thank you very much.

(Off record: 10:17 AM)
(Thereupon a recess was taken.)
(On record: 10:35 AM)
PUBLIC PARTICIPATION SPECIALIST MAJHAIL: Looks like we've settled back in. Just a quick reminder for the members, please when you go on break or lunch turn off the mics, because we -- you know, we still have our audio listeners here. And we just request that you turn off the mics.
Thank you.
CO-CHAIRPERSON MORAN: Thank you very much, Radhika. And so I'm calling the meeting back to order. And we're to kick off our discussion I just wanted a few reminders about using your flag. And I'm really appreciating Art's help in keeping track while I'm chairing. One of the take-home lessons is that we need a brighter colored flag, because the room is so busy I'm having trouble seeing things.
And speaking of take-home listens, we do keep a list. We will also -- staff here are going to be keeping a list of what we're going to call parking lot and action items, so -- which will be projected on the screen over in the corner.
So as we go through the meeting, if we identify something that needs a longer discussion than we have.

Right now, we have a little over an hour. So we need to wrap this up including our kind of final wrap up discussion by 11:45. So it's not a huge amount of time, and I'm expecting that we may come up with some items that going to merit some follow up. And in that case, we can call those out as potential action items or put them on the parking lot and then come back towards the end of the meeting and decide, while we're thinking about our next steps, whether those are things that the Panel might be wanting to continue work with the Department on or whether that's something the Department will pick up on its own.

So with that, before we start this discussion, there's clearly a lot of confusion about what we're doing in this hour. So I just want to really emphasize that the Panel is not being asked -- we're not creating workplans. We're not selecting priority products. That's the job of the Department. We're not advising on the scientific content of these particular profiles that DTSC has issued. We're not opining on any of that stuff.

Where the Department is asking us for help is on process. So they're trying to figure out how can we best go through the process of putting something down that explains the rationale for selecting a priority product?

These profiles are different than the kinds of profiles often dossiers or other kinds of words are used

to describe chemical or product chemical write-ups that you see from the EU, from other places. There's a lot of folks who have been doing these kinds of things. And these are distinctly different from those. And I think that that's muddied the discussion that we're having here a lot.

So we may identify things that would be useful in some other way and we can parking lot those, but our focus of our discussion is on what's needed for the listing, so to clarify their product listing.

So to help us focus that, I was going to ask Meredith if she wanted to say anything, and Karl to clarify for us to really focus our minds on what's the listing, and then we'll go to the discussion.

BRANCH CHIEF PALMER: Thank you, Kelly. Yes. As Kelly said, the profiles are a reflection of the process of us making decisions about we are proposing to be a priority product. The regulations as Andre laid out in his presentation focus on two broad areas of interest. One is, is this the chemical -- the candidate chemical in the product and is there an exposure to that chemical? And two, is there a potential significant adverse impact from that chemical?

Beyond that, there are other criteria factors in the regulations, things like consideration of sensitive

subpopulations, and mostly exposure and market information. That -- those profiles reflect sort of a rolling up of that analysis. So as Kelly said, what we would appreciate is insights into the process, things that could help us in tools, other perspectives that will inform us. So as we compiles this information and make these recommendations, and then subsequently as Andre pointed out, we're going to put these through a public process, both in the workshops that we're going to have in the near term, and then finally in the rule-making.

So there's going to be a lot of opportunity to discuss the facts, if you will, but the process stuff would be helpful.

I might highlight that we're relatively strong in our capability in looking at chemical toxicity and physical chemical -- we have a lot of toxicologists. We have a lot of chemists. We have less information and capability and experience in dealing with market information and manufacturing and how these things interact. So that's sort of the broader framework.

I'm not sure, Kelly, if that addresses what your were looking at.

But they are not a regulatory document, and it's not meeting some scientific standard. It's a decision-making document, and they're going to be -- they

initiate this process where we want to have the dialogue, both here and in the public.

CO-CHAIRPERSON MORAN: Meredith, do you want to add anything or?

DEPUTY DIRECTOR WILLIAMS: At the risk of being -- of repeating myself, I do want to say again that the Panel will no be weighing in on the science. We haven't asked them to weigh in on the science of the individual product profiles. That's staff responsibility.

We're going to continue conversations about the profiles and the supporting science that was used for those profiles during the public workshops. And we welcome any input from key stakeholders.

CO-CHAIRPERSON MORAN: All right. So we have a set of questions to guide our discussion that came from the Department. And Panel members, you had an Attachment 1 to your packet that actually lists the questions. Because of the amount of time we have and kind of the nature of the questions, I'm going to suggest that we not take the questions individually, but rather that we attempt to tackle all four of them. And then we might come back around and highlight one of the particular ones, if we feel like we're not addressing something adequately.

So I don't think it's necessary to read the questions to you all, since I know you've read them and

thought about them before the meeting.

And I know that Ken Geiser had his flag up so early, it was before we were ready, so we'll start with him. And then I see Helen and Tim and Meg, so we'll start with those and keep going.

Ken.

PANEL MEMBER GEISER: So this is Ken Geiser. And I, first of all, want to congratulate the staff, first of all, for being at this point, but secondly, to arriving at it with such quality product. And I'm really, really pleased to see these. The selection, I think, is good, but also the profiles I think are good.

In so doing though, I want to both note the quality of these, but also think about a little bit what are these for? And I'm glad, Karl, you said what you just said, because I read these twice. I read these when I downloaded them a couple of days ago. And then last night I went back and read them again.

And I noticed what I did when I read them the first time is I went through and sort of thought about, well, what is a profile, a profile under REACH or profile under some other things. And I thought well, you know, they could add this, or they could add that, or maybe it would be useful to have this and that in there, sort of some additional kinds of things. So I drew up a whole

list of things that I thought would be interesting to have in the profiles.

And then when I actually though about this last night in going through it, and also I think listening to you, Karl, I realized that's not really the task here. And that discussion might mislead us, because I think what you're asking or what you -- what the purpose that you're making -- giving to these profiles is to create a sufficient base to document the listing. And it is not necessarily a comprehensive look at a profile of all the ways -- all the important things that you would need to address, if you were going to take the next step, for instance, into thinking about alternatives assessments, et cetera.

So I guess the -- part of this is just to clarify that that is correct, because I could either go into a list of really wonderful things that could be added to these profiles. But I think there's a danger to doing that, which is that it would mean that myself and others on the Science Advisory Panel would be adding extra work, which might be good to do, but slowing down a process of moving forward, and I don't think we should be doing that.

So am I right, Karl or Meredith, that what we are really being asked to do is to come up with a sufficient, not a comprehensive look at a profile?

DEPUTY DIRECTOR WILLIAMS: Very simply that's the -- you hit the nail on the head, which is that it's -- the word "sufficiency", you know, making sure people understand our rationale, making sure that we have documented our decision. We have the litmus test for decisions around meaningful, and I think that's really all that we need the document to do. We could go on, right? We have Ph.D. scientists on staff that are very happy reading another study. Is that really, you know, required? I don't know. I don't think so.

PANEL MEMBER GEISER: Can I just add one comment to it? It might be useful for us to if we come up with additional things to just put it into one of your buckets, your -- so let's take that up in regards to the guidance.

CO-CHAIRPERSON MORAN: Yeah. So maybe we could even start a bucket on there that if there are things -- I guess -- well, first, I should ask is the Department thinking of providing some product specific guidance or insight for folks when they're -- once their product is listed in terms of doing the AAs?

Because I think that's kind of what -- there's a lot of things that people are used to seeing in a broader more complete dossier that might be useful towards structuring, thinking about doing an AA for that product.

And so as we proceed in the discussion, if there

are things that come up like that, you know, is it useful to write those down?

BRANCH CHIEF PALMER: Let me clarify that is the question will we be addressing in the AA guidance specific product needs?

CO-CHAIRPERSON MORAN: No. The question is when a product is listed, will the Department be saying anything about the kinds of considerations for the AAs for that specific product?

Maybe you don't know if you're going to do that yet, but I'm kind of guessing that each of these products raises some specific considerations or some kinds of information that folks are going to say, "Oh, it would be really great to think about these things of things".

DEPUTY DIRECTOR WILLIAMS: I don't think that's anything we had thought about explicitly.

CO-CHAIRPERSON MORAN: Okay. So we'll --

BRANCH CHIEF PALMER: I would say that the AA process in and of itself will accommodate that.

CO-CHAIRPERSON MORAN: Okay. So we'll think about it, but we may end up bending some things -- I think Ken and I are kind of suggesting that as we go through the discussion, we might bend some things into the not necessary for the listing, but things -- the kinds of things the Department might want to think about bringing

forward to share with folks when they're getting ready to do their AAs.

Okay. So, Ken, you're complete?

PANEL MEMBER GEISER: Yeah.

CO-CHAIRPERSON MORAN: All right. Helen is next, then Tim, then Meg.

PANEL MEMBER HOLDER: So I think that to this question of is the -- is the information in the profile sufficient to justify the listing? I think that there were some questions that I had that weren't actually clear or that -- I'm not clear that it was sufficient.

So starting with the exposure side of it, so did the -- was part of the consideration in selecting the substances, and in these particular products, to look at whether the sources that are listed here are considered to be the major sources for exposure, so that, you know, it's not just -- it's possibly an exposure, but there's maybe another major exposure through some other product or through some other path or something. So, I mean, was that part of the thinking in selecting these?

BRANCH CHIEF PALMER: Well, I think the regulations site specific criteria, and some of them are -- you know, is it a significant potential adverse impact? So I'm note sure what your definition of major would be, but we did look at the information we had, and

weight that against those criteria. And sometimes it may not have been major, but it might have been significant.

Is that --

DEPUTY DIRECTOR WILLIAMS: And if I can. So let's take the children's foam padded sleeping products. It's very possible that furniture is a much bigger source. Furniture falls outside the realm of our regulatory authority, so we weren't -- you know, so is it the biggest? We can't say that it is, but we do think that it's significant. And also significance changes depending on the population you're thinking about. And because we did consider specific sensitive subpopulations, that changes the -- it was kind of the calculus on whether or not it's significant.

BRANCH CHIEF PALMER: And I just might add that we were careful in the crafting of both of the regulations and in making these decisions not to put a filter that is -- these have to be the most, best, worst candidates. That's not the criteria, because we think they'll feel if we had to do that, that's a slippery slope of, you know, a value statement.

There are a lot of criteria. There's a lot of discretion granted. But we're looking at not what's the worst or the most -- or the most major.

PANEL MEMBER HOLDER: Yeah, I guess that was

just -- that was just one of the questions that I had in that one in particular as I was reading through it going well is this a one percent of the exposure that they might get or is this 90 percent? You know, just -- even if that wasn't one of the factors that made you select it, I think in the profile, I think it's helpful to have that perspective, you know, if you're trying to figure out how -- like, for example, if you were the regulated community on that and you wanted to go to a different material, but you'd maybe have a residual level -- and that's not in this case, but let's just say, for example, you had a substance that you could get to a residual level, it might change your approach in how you're going to deal with that alternative -- of those alternatives.

If you know that you're going to go from one -- you know, if you're one percent of the exposure down to a tenth of the percent of an exposure versus if you are -- if that product is 90 percent of the exposure and you can get it down to a residual level, that's a very big improvement. And so you might be willing to tolerate a residual level as an option.

So I guess it's just as far as what goes in the Profile, it might be relevant to have that perspective if you have it.

DEPUTY DIRECTOR WILLIAMS: And I think that if

you have it, it is quite a challenge for us. It's very difficult for us to know, I mean, if things are sold by -- you know, if certain chemicals are sold by the pound, tracing where those chemicals end up is -- can be quite challenging, and our authority for data call-ins somewhat limited, so it will be a challenge for us.

CO-CHAIRPERSON MORAN: So go a head, Helen. Are you complete?

PANEL MEMBER HOLDER: Okay. Similarly though, one thing in the sufficiency of making the case for the listing, and it's not a formal requirement in the regular, but I felt like it was a gap in the baseline information justifying the listing, was the economic impact, which I know some of you are sick of hearing this.

But the economic impact is very important in justifying going to all the trouble of doing the work. And then if someone has to do the alternatives assessment, then need to have a baseline in order to compare that to. And so that really needs to be part of the profile.

CO-CHAIRPERSON MORAN: So. Okay. I just want to clarify, the staff aren't going to respond to everything that all of us say, So we'll just -- we'll keep moving around in the discussion, and I know they're taking notes, and we'll be noting that.

So I heard the typing for economic impact from

here. So we've got now Tim, Meg, Mike, Art and Don.

PANEL MEMBER MALLOY: Thank you. I guess I want to start off echoing what Ken said, which is I think this is a really impressive document, and I was pleased by it. I thought it really went to great lengths to make sure that it hit each of the points in the regulatory requirements. So I thought it was a good job. And, you know, I think in terms of, as a lawyer, I think I'm uniquely qualified not to comment on the science.

(Laughter.)

PANEL MEMBER MALLOY: But I did want to say something about the process. So in his presentation, Andre had talked about two aspects of this, like here's the profiles. So the profiles are kind of a snapshot at the end of here's what we came up with, and here's our justification for them.

And I think it is -- two things about that. One is I think the document does it just right, in terms of when you look at the regulations, the regulations don't appear to require kind of a macro view of all 153 or 1,100 or whatever, and then a kind of systematic prioritization away from those justifying the choice of these three as opposed to all the others.

The regs say you shall pick some and here's the things you'll note about the things you picked. So I

think the profile does that really well, so -- and obviously, you have your own legal staff, so I'm not going to -- you don't need to hear from me about, you know, is it legally defensible. I know that's one of the director's three prongs, is it legally defensible? I look at this and I think, wow, this is nicely done. It's legally defensible.

So let me take a step back and talk about the macro process, because I think that was part of the four questions, and it came up on your thing.

So I -- it's difficult -- I think whether legally you have to do it, obviously from a public health and an administrative standpoint, you want to be thinking. And I think this reflects a little maybe of some of what Helen was saying. You do want to be thinking though about what isn't -- what aren't the three, right? Are these the right three?

And I think it becomes even more important when you scale this up after the first round, and you're looking at -- you aren't limited to, you know, just certain endpoints and so on and so forth.

So it's hard for me to comment on the process that led to the three, the screening and so on and so forth, because we don't really know what that was. You gave a good answer. It was a helpful answer, Andre, when

I asked you that, you know, it sounds like there were suggestions of products, and then from that set, there was an analysis done of those selections, you know, matching them against the candidate chemicals and so on and so forth.

That's -- I'm wondering if that's the process that one would want to use going forward though? Does that -- you know, there's a certain bias in -- and I don't mean this in a negative sense, but, I mean, there could be a certain bias where, you know, an availability bias. So certain -- a bunch of people identify certain products, products that maybe aren't identified or brought to your attention, may not be looked at as closely as the ones that are identified.

So we don't know that we've got kind of a systematic prioritization in the way that I think the regulations and the program, I think, envision.

But it's hard for me to comment on that, because I don't know enough about what went on during the process, and, you know, how you're going to deal with that going forward.

So the comment I guess I would make after that long lead-in, Kelly, is it would be helpful to hear more about it, the process. And I have some ideas and there are kind of models out there for making a -- that macro

consideration, but I think it is important in that macro consideration to do some kind of systematic look at what's out there, and kind of get it down as opposed to kind of the -- you know, responding to suggestions that are made going forward.

The last thing I would just say is you had asked questions about increasing transparency, and bringing -- I noticed on the slide there were mentions of, you know, working with sister agencies and there were mentions about increasing the transparency with industry. I didn't see a lot of mention about involvement in increasing transparency with NGOs and, you know, civil society more generally. And I know the way you operate that that doesn't reflect that a reluctance to do that, but I just thought it would be important to emphasize kind of getting all of those voices into the -- so if there were some people in the process early on, we ought to try and get all the voices into the process early on.

And then the last thing is I like what you did with the alternatives, like the section on alternatives. I was worried about that section in the part of the regs, because when you look at the Statement of Reasons, it says things that have readily available alternatives. The idea was if you've got a readily available alternative, that might pop you to the top of the prioritization list in a

sense.

And it looked like you did a balanced thing, where some of these things do appear to have some readily available alternatives, but others like I think it was the spray foam has emerging. It's not -- it may not quite be there. And so I like that, because I think what you're doing there is you're kind of using the prioritization tool to drive innovation at different stages of development.

And I think that -- I was happy to see the use of that as a tool at this point. So anyway, that's all I had to say at this point.

PANEL MEMBER HOLDER: Can I add just something on that? It's related.

CO-CHAIRPERSON MORAN: Extremely brief, because I want to bring this back around. We've got a long queue.

PANEL MEMBER HOLDER: In the spray foam, page 14, it says DTSC does not recognize NMP as a safer alternative. I would just -- I think that that's actually also a good practice to say what's a non-starter, so that people don't spend a lot of time on alternatives that you don't anticipate accepting.

CO-CHAIRPERSON MORAN: Thanks.

So now we've got Meg, Mike, Art, Don, and Becky.

PANEL MEMBER SCHWARZMAN: Thanks very much. Meg

Schwarzman. I also want to congratulate the Department on getting to the point of having these three profiles, which I also read with curiosity in the same way that Ken did of like, ooh, what's this going to be like, and found them to be quite a good middle ground between hitting the high points of all of the regulatory requirements and yet being quite readable and intelligible with -- you know, between the simple format choices like putting things in bullets, to the language that's used that's clear, and, you know, precise enough to not be -- to rub scientific audiences the wrong way, but not so complex as to be unreadable. And so I think you did a really nice job with some of that.

I wanted to -- now, I don't have to work as hard to make this point, because it's been touched on a bit by a couple people who have spoken, but I guess I would just like to add my voice to this point of the prioritization processing in getting here, because I think there was some -- I heard unrest among the public comments about, you know, a sense of arbitrariness in finding these three products. And it sent me back to conversations that we had in the old Green Ribbon Science Panel, where the GRSP Panel was urging over and over DTSC, and encouraging the Department not to get locked into a system of having to select the most -- you know, all of the superlatives that

Karl mentioned, the most significant impacts, or the highest exposures.

And I think the Department did a really nice job of calling out that these need to be significant exposures, they need to be significant health effects, but you don't -- you aren't shackled to the job of identifying the top exposures and the top hazards, because of how impossible a job that is.

And so I just sort of wanted to call the public's attention to that explicit choice that the Department made with a lot of support from the previous Green Ribbon Science Panel, and reiterate that that was a conscious move on the Department's part that I think is highly defensible, and recommended.

And yet, I also would echo Tim's point that, you know, so a lot of the prioritization -- that systematic prioritization that the public was calling for took place in the winnowing of from 1,000 chemicals or 1,100 chemicals to 153. And that's very systematic and evidence-based process. So some of that prioritization happened. And to equally be aware of not just looking for the keys under the lamppost, that is if, you know, interest groups of whatever kind, whether they're scientific or industry or NGO come forward with products they're interested in, and you find sufficient evidence

there to make sure there's some discipline to the process to make sure that you're getting a whole lot of those products on your radar. And it's a balancing act, I understand, between being exhaustive and targeted, but to encourage you to keep some of that exhaustiveness in the process.

So those are my general comments. I had a couple of specific comments also about the format and sort of process of the profiles. Just a couple of them, and I'll leave very specific comments for offline.

One is I found the variability in the organization of some of the sections a little bit disruptive as a reader. And I think as you probably make more of these, you'll get that systematized a little bit better. So particularly I found the population at-risk section, I think it's the tris profile just lists in bullet points like a couple of populations, and the SPF is a slightly odd collection of supporting evidence statements.

And so I think actually the appropriate approaches is right somewhere in between, where I think it helps to have a little bit of explanation for why that population is critical, but to leave some of that extra evidence for the other pieces.

And my final smaller detail was about the Other

Regulatory Programs Section, where I understand that's a requirement of the statute that you identify what other regulatory programs may cover this chemical or this product category, and whether they accomplish the same goals.

And I found that that section, in general, while it identified what programs might cover the chemical or product, didn't provide the further explanation of how that doesn't accomplish the goals that DTSC needs to accomplish. So you may evaluate and decide that that's not statutorily required, but as a reader of the profile, I was hungry for the concluding statement of like that's -- you know, yes, CPSC identifies this, but this is why that's insufficient to accomplish our goals to have that final concluding statement.

That's all. Thank you.

CO-CHAIRPERSON MORAN: Thank you. I've got Mike, Art, Don, Becky, and then back around to Ken. But I might, before we get to second inputs, I might offer those who haven't spoken an opportunity to comment. So I did mention Ann, as first. So Mike you're next.

PANEL MEMBER CARINGELLO: This is Mike Caringello. There's been a lot of congratulations. And I just want to a slightly different twist on that, because I agree with what's been said. But what I also really think

was good about this set is you've stated all along that you want this first set especially to be a learning tool to figure out how you want to do stuff. And I think you really hit a nice broad pattern here of rationales and products and things that you can derive some learnings as -- even as you set the three-year plan, but in the future, so you can say here's how we want to go forward. I think that was very well done.

And then this is a question or comment -- sorry. And it might be too early at this stage, but a type of information I think would be useful is that you're allowed to have a threshold value as you hit the chemical of concern combined with the product. And that piece wasn't discussed in here. And it might be that you need to wait four that to hit the workshops and hear what people have to say as to what type of the -- it is in the composition, if there is a threshold value worth looking at.

But I think that might have been helpful to see in here, because you might have companies that it's present as an impurity, and they aren't quite sure how much there is. So it might have been worth saying is there a threshold and it will be discussed later. That would be just something I would have found helpful in reading these.

CO-CHAIRPERSON MORAN: Great. Thank you. So

we've got Art, Don, Becky, and Cal and then coming back for the second time Ken, Tim. So quite a queue here. I'm going to let you go a little bit right now, but then we'll start trying to go for shorter second round comments. And as you've probably noticed, Panel members, those of you with not good direction wanting to eat that microphone, Radhika has been coming up to you and moving the mics around. These mics are really good at picking up your side conversations when they're on. They're also really not good at picking you up, unless they're pretty close to your mouth.

So feel free to move them around the table and put them in a place that's comfortable, so you're not doing what I'm doing and leaning over, because they do have long cords.

Art.

CO-CHAIRPERSON FONG: Thank you very much, Kelly. I also want to add that the product profiles, they're just extremely impressive. It's very obvious that a tremendous amount of work went into putting those together. But one thing that I would like to see, was looking at the slide, the second of the two points where it talks about widespread and significant adverse impacts.

So if we were to look at the exposure sections of these profiles, I think it's very obviously that DTSC has

done a really good job demonstrating widespread exposure or impact, but I wasn't quite as convinced on the significant part of it.

And again, I understand that, you know, in terms of these products, that DTSC emphasized that we're not looking at the most or, you know, the highest impacts. But I would like to see some kind of more formalized process for determining what significant might be.

So one way of doing that is actually to look at product-specific exposures. And I kind of saw bits and pieces in there, but it was laid out in such a way that it was easy for me to convince myself that, in fact, that, you know, these products and the impact they would have are significant.

And again, I understand that, you know, these product profiles are not like through REACH dossiers, in which you're actually doing a formal risk assessment. But if you, in fact, have more product-specific exposure information, such as, you know, worker exposures or -- and consumer exposures, and then you compare that to some kind of a hazard endpoint threshold, so even though you're not doing -- you're not generating or calculating something like a margin of exposure, or margin of safety, it will allow me to look at the product specific exposures and how that compares with what exposure levels are of concern.

And by just looking at the two, then I can very more easily see if, in fact, DTSC has, in fact, reached their significant impact criterion.

Thank you very much.

CO-CHAIRPERSON MORAN: Meredith, did you want to say anything here?

DEPUTY DIRECTOR WILLIAMS: Yes. I would love to.

So. Director Rafael just arrived. And we're just excited that you could make it. We know what the schedule looks like the next couple days. And I tried to reset expectations and told all the Committee members that, you know, they wouldn't get to see you, and here you are.

So I'm sure you have some welcoming remarks. We did some welcoming, but I'm sure you have more to offer.

DIRECTOR RAPHAEL: Thanks, Meredith. Sorry to interrupt the flow of conversation. I see that cards are up and people have things to say, but I do have to say that this is so exciting. This is incredibly exciting for me to look around this table and see people who, for me, are some of you incredibly long time friends and colleagues, and others of you who I don't know as well that I'm really looking forward to getting to know. So it's an incredibly brilliant, wonderful group of people.

And then when I look around the room, and I see

who is joining us on this journey that we all find ourselves in to figure out how do we implement this groundbreaking program in a way that makes sense and is doable, it's very gratifying to see the faces in the room as well.

As you know, in our Department, we are a Department of about 960 people, about $200 million budget. Of that group of 960 people, 27 of them work on this project. So this is a very small piece of what our Department does, even though it is perhaps the most visible piece -- I mean, absolutely, the most visible piece internationally and nationally, and yet, it's very small.

So a big part of what I do in this job is make sure that we have money to run all of the other programs that we do. And this is budget season it turns out, and there is one thing that I have absolutely no control over is the Legislature. So when they schedule something, I don't get to say to them, you know, it's really inconvenient. Can you just move the hearing date?

And so we had planned this meeting months ago, and it looked great on my calendar until we got the schedule. And so I had the Assembly this morning, and I have the Senate tomorrow. And the other thing I don't get to select is when we go. So I thought I'd be here

earlier, but I wasn't.

So anyway, I just apologize for that, because there is no place I would rather be than in this room with all of you. I mean, truly in my heart, that's the case. So I know it's in good hands. As you can see, one of the big changes that has happened since the last time you met is -- in person is not only that this group is different, is smaller, and is a different mix, but that we have new leadership as well.

And I want to recognize the fact that we have two kinds of new leadership. We have new leadership internally, and we have new leadership externally. So starting internally with Meredith. Meredith Williams I have known for several years. And when we needed a head of this program, there is no one I thought who could provide the combination of factors better than Meredith.

And one of the things that makes and ensures that Meredith is successful is the fact that she has the most amazing partnership she could ask for in Karl Palmer. So between the two of them on either side, you are in great hands, and I think you've already seen that.

The two together make an amazing -- the whole is greater than the sum of its parts, truly, so it's an amazing team.

And then I also want to acknowledge the fact that

we've had a changing of the guard in terms of the leadership of this group. Obviously, for me, that has very personal implications, because the first change of the guard was when I stepped down as co-chair to become Department head, which seems like only yesterday, ha, three -- almost three years ago. And what an interesting journey that has been.

But I just want to thank Ken and I -- is Bill on the phone?

CO-CHAIRPERSON MORAN: Yes.

DIRECTOR RAFAEL: Oh, Bill, I wish you were here. I see your card is up, so it's kind of interesting to know -- and it's great, because I know then -- and I picture you, Bill, with that cowboy hat from your birthday party at one of these things that we got from you.

So I know you left it behind in your hotel room, but we will find you again and make you wear it. So I want to thank Bill and Ken for the amazing job that they did to lead this group.

And then I want to thank and welcome to that leadership Art and Kelly, who when asked, wholeheartedly said you bet. And they knew they had big shoes to fill, and they took it on. And I want to thank Ken and Bill for their guidance in the transition. It's been really helpful. And we're in great hands.

So between Art, Kelly, Meredith, and Karl leading us all and all of you who are the best thinkers I could imagine and a diverse group, who will keep us on track, I know we're going to do great things. So thank you. And I'm sorry for the interruption, but thank you for giving me the opportunity to say that.

Thank you.

CO-CHAIRPERSON MORAN: Thank you, Debbie. And on behalf of the other Panel members, I think we really personally appreciate the opportunity to provide our individual advice and support for the Department to help make this program as the best it can be.

And you mentioned birthdays. And we happen to know --

DIRECTOR RAPHAEL: Who mentioned?

CO-CHAIRPERSON MORAN: You mentioned Bill Carroll's birthday during the meeting. And it turns out that it is Debbie's birthday today.

DIRECTOR RAPHAEL: It is and we're going to celebrate over dinner, right?

CO-CHAIRPERSON MORAN: So I want to say Happy Birthday.

DIRECTOR RAPHAEL: We're celebrating now.

CO-CHAIRPERSON MORAN: Apparently we're going to say Happy Birthday right now, so Happy Birthday.

(Laughter.)

CO-CHAIRPERSON MORAN: So do you want to try to sing.

DIRECTOR RAPHAEL: Are we on camera?

CO-CHAIRPERSON MORAN: We're not on camera.

DIRECTOR RAPHAEL: Oh, good, so nobody can see me blushing, except the people in this room.

CO-CHAIRPERSON MORAN: Yeah, so I don't know if you --

DIRECTOR RAPHAEL: Maybe we'll sing at dinner. So I'm not sure all the people on the mics really want to hear our voices right now.

(Laughter.)

CO-CHAIRPERSON MORAN: But Happy Birthday and thank you for joining us on your birthday.

DIRECTOR RAPHAEL: And I happen to know that Ann Blake is an amazing singer. So who -- do we have other people?

CO-CHAIRPERSON MORAN: Helen is also here.

DIRECTOR RAPHAEL: That's right. Helen is an amazing singer. All right. Karl.

Okay. All right. I'm going to expect some four-part harmony. Okay. All right.

CO-CHAIRPERSON MORAN: So now we have a long queue of folks, so we're going to move here. And I am

going to ask -- even though some folks are just on their first time to try to be efficient with your remarks.

The queue -- first speaker -- sorry, right now, it's Don, Becky, Ann, Cal, Julia, Bill, and then we'll come back around for brief remarks from Ken and Tim. So Don is next.

PANEL MEMBER VERSTEEG: Okay. Thank you. And Happy Birthday Debbie and thank you for the opportunity to be here. And just to let everybody know, I'm at the low end of the gene pool when it comes to singing, so I'll be in the background mumbling along.

(Laughter.)

PANEL MEMBER VERSTEEG: A lot of my comments have been addressed by others, so I'll be as brief as possible, and just try to highlight those. First of all, I appreciate the documents. I think they establish a good point in time as -- on this journey towards making products safer for consumers and for the environment.

So my points are meant just to try to help to improve them. I'll use some examples from the current documents to be -- you know, to make my points as clear as possible.

And, you know, I see up there that the exposure has to be significant and widespread or the potential for exposure, and the candidate chemicals must come from the

list. But the other thing that I think the document has to do is draw a clearer line between the product and the exposure.

Looking at the foam example, no one has taken a foam product -- no one in the document took a foam product and put an organism in the same container with the foam product and showed exposure of that organism.

There's a reference to the Markland document showing exposure? No. Markland did not refer to TDCPP in his document and show exposure. There is other documents that are referred to that predict or calculate or estimate.

And so I think, you know, industry is going to expect more of a direct association between the product and the exposure. And what if industry was to come forward with any of these products and show exposure doesn't exist -- does not occur during the comment period?

Does that automatically say woops, we made a mistake, we're going to take that back? So, you know, that highlights the importance of making sure the exposure truly exists, truly occurs from the product in question.

And speaking of the product, I'm not sure if companies that are making mats for children or spray foam chemicals know if they're in scope or out of scope. You've got to be really specific. So if I make a product

that has a foam bumper on it, and children occasionally sleep on them or near them, but I don't call it for sleeping. Am I in, am I out? You've got to be very specific in that section of the document.

For spray foam systems, if I now have a chemical, that's -- you know, the isocyanate and the other components of the urethane, and it's not sold as a system. I sell the two separately. Am I in scope, am I out of scope? What if I do my -- I buy my spray foam and I do my foam making in a completely sealed system? I'm doing it for, I don't know, football helmets or something else, it's not for insulation or roofing or attics.

But I'm using it to make surf boards or something else. Is that in scope, is that out of scope? I don't know.

Threshold levels need to be in there. That was -- that point was made. Industry input. It seemed from industry when we listened to the public comments, that they weren't consulted. I don't know when that is supposed to occur, but that's very important, because it seems like some of the documents could benefit greatly by a deeper understanding of the products, of the chemicals how they're used.

And then economics. I imagine a lot of companies that make these spray foam systems are small companies.

And what -- and this may be their only product. So if you put them out of business, how is that going to be -- what impact does that have on the regulations? And what if there's a big company and a little company, do you give a little company a pass in the AA, but the big company doesn't get pass, because they can move to alternatives.

And I also didn't know if this was an alternative products procedure or this is an alternative chemicals approach?

So a lot of the alternatives for the spray foams, in my mind, aren't alternatives. And the same with the foam, it's an alternative mat that children can sleep on, but children can sleep on the ground. You don't need any product.

What you want to find is you have to specifically define the foam, what it does, how it operates, and then what a suitable replacement would be, the same with the foam. These things are sprayed. They expand as they spray. They stick to things. Is that -- does that then define an acceptable alternative, a chemical that allows you to have those exact same functions?

So it goes back to what is the specific product and what is the function of that product?

Then the not regulated by others. For one of the products - I can't remember which one - there are others

that regulate those chemicals, but the comment was made, but they don't take a lifecycle approach. Well, it didn't occur to me that the decision was being made due to lifecycle concerns. It was human exposure, use of the product, not life cycle, so I don't think you can rely on the fact that no other regulation uses lifecycle -- builds lifecycle concerns in, so that was the question I had. And that was it.

CO-CHAIRPERSON MORAN: All right. So moving -- moving quickly along here, Becky, and we're going to need to start being more brief.

PANEL MEMBER SUTTON: All right, I can be brief.

CO-CHAIRPERSON MORAN: And I'm sorry about that.

PANEL MEMBER SUTTON: So I thought these profiles were great. I would call them quite sufficient using Ken's criteria. I do want to echo Don in the specificity of the products. Already had a few discussions with DTSC about that. For future products -- future priority products, it might be useful to discuss briefly the full lifecycle of the product including disposal, what occurs, what properly should occur, and what actually does occur, because we don't all take our staff to hazardous waste and specifically I'm concerned about that in terms of environmental exposure.

CO-CHAIRPERSON MORAN: All right. Ann, Cal,

Julia.

PANEL MEMBER BLAKE: Thank you, and Happy Birthday, Debbie. We'll get to this evening for sure.

I wanted to add, of course, my congratulations to the staff. Thank you for all the hard work on these profiles. I agree with a lot of the comments that have gone around the table about them being sufficient.

I did want to add a couple of things on the selection process and how that might be more -- articulated with more clarity and then a little bit more on the documents. Although, I think those have been pretty well covered by my colleagues.

So I wanted to congratulate you both on the profiles, but also on the selection -- the results of the selection process, not so much for the specific chemicals and products, but for what they represent. As has been discussed in great detail, we've talked about this being the beginning of a model program that could be used for other programs.

And so the choices you had for me covered a whole lot of different territories and different tweaks on the territories within the regulations. And that was congratulations on doing that. To the level that that was intentional, I think that it would have been helpful to articulate perhaps your decision criteria, your decision

matrix. I don't know if that's something you particularly want to make public, but it might have been -- you know, in public comment I heard some confusion about how that might have happened.

And it might be particularly useful for you internally, to figure out what those criteria are moving, including some of the lifecycle criteria that you've talked about, how it's covered in other regulations. And I also wanted to say thank you that you've considered workers in a couple of these options, and I very much appreciate that both workers and DIY folks.

And so in each of these selections, you have picked ones that cover populations -- different populations in different ways. So I think's an extent choice of the products and chemical combinations that you have.

With that, I think I want to echo with a slightly tweak some of the other comments that have been made here for the documents themselves. And I'm not -- I sort of hesitated about putting my flag up, because I'm not sure whether this fits in this section in the priority products or if this sort of gets into the market analysis, when start thinking about the implementation of alternatives assessment. So take that with that -- with that kind of grain of salt.

So I agree that there needs to be a little bit more fleshing out in these documents at least, and potentially moving forward about the rationale of why these were chosen from the subpopulation. I think echoing Meg's comment about a little more detail on why you chose those subpopulations and why their impact is significant, and your choice of this product in chemical combination.

And then also a little more on the market analysis. Is the a large -- what is the significance back to that question of significance of the impact? And I think that brings in both the economic piece, plus who were the players, large/small companies, that might be involved. And I think this is where we might go into that's and in-depth analysis that may occur when you start thinking about the alternatives guidance.

I would also echo I think something that Kelly brought up earlier about thinking about a product-specific guidance for the alternatives assessment, in addition to the overarching guidance that I know you're developing.

An then finally, something that Don just brought up with you, talking about the functional use and perhaps being a little more specific about what the functional use was that we're trying to achieve in your product and chemical combination.

So thank you.

CO-CHAIRPERSON MORAN: Thank you, Ann.

Before we go to Cal and Julia and Bill, I just want to mention economics has come up several times. And the regulatory process must include economics. So part of why it's not in the profile is that there are things that are beyond the one piece that we're looking at that make up that whole package.

So Cal, Julia, Bill, and then we'll come around for second comments.

PANEL MEMBER BAIER-ANDERSON: Hi. This is Cal Baier-Anderson. One of the things I really liked about the children's foam products profile was the inclusion of the structurally mechanistically similar chemicals. The structurally similar chemicals, of course, you know, they're similar, but not identical, and the toxicology is similar but not identical.

And I just think this is a really kind of important section to include, because it's often easy to jump to the next chemical that may be structurally similar. This is a little -- sends a signal that we should be grappling with this kind of explicitly. That, if you are going -- you know, looking at structurally similar chemicals, you want to make sure that you're dealing with the toxicological similarity or differences in an explicit manner.

So I would encourage you to include a section on structurally similar chemicals in all the profiles that might be helpful to people.

CO-CHAIRPERSON MORAN: Julia and then Bill.

PANEL MEMBER QUINT: This is Julia Quint.

I want to follow-up a little bit. I had a slightly different -- I mean, very similar concern that Cal raised -- not concern, but I thought -- I think the structure activity relationships of chemicals that might be used in the future is very, very important, because that's what's gotten into so many of these regrettable substitutions.

And I was actually going to comment on the unevenness a little bit with the -- in one profile, I think it formed methylene chloride. The Department was very clear that n-methylpyrrolidone is not considered a safe substitute. But for the diisocyanates, you have a bunch of chemicals that you name some for the foam, but there are many diisocyanates that really have the same properties as the ones you've mentioned. And there are also polymeric isocyanates that CalOSHA actually has on its lists to be regulated in the future. And the UK, they already regulate based on the isocyanate moiety, as opposed to specific products. They're all included just based on the NCO.

So it's very important to not send the wrong signals that we're targeting these, but naphthalene diisocyanate may be a reasonable substitute.

So a little bit more about that, and just a few more things. I noticed for the chlorinated tris, you mentioned the -- you know, the NSRL, and -- which is the risk number that OEHHA has come up with, little -- you know, and we're not concentrating on risk assessment here.

So, you know, it's nice to mention it, but not to give the wrong impression that because we're not going to have NSRLs or, you know, those numbers, those quantitative risk numbers for everything, and we don't really need them. I think we determined that, that this is more hazard based as opposed to risk assessment based.

And in the foam, I guess as a consumer, one of the questions that I would have is, you know, how do these alternatives or how do these things match up in terms of energy? You know, people get foam in their homes, because they're trying to conserve energy. So I don't know if that was an important thing to mention or not, but it seemed to be a question that I had.

If we're going to think about this category, and we should from the base. And the documentation was excellent on all of the profiles, in terms of the rationale for listing, I thought that was really superb,

but I think in that particular case, we're dealing with maybe a tradeoff between energy conservation and toxicity, but I think not to mention it at all was sort of an omission.

And one final thing with the methylene chloride strippers, there was some mention of surface cleaning. And I know that CARB regulates cleaners. So it wasn't clear to me whether or not this was -- where it belonged, you know, because the -- as I said, CARB has a lot of regulations for consumer product cleaners. And methylene chloride is actually banned in some of their categories.

So a little bit better distinction between what we mean in this particular context as opposed to what CARB is already dealing with. But overall excellent.

CO-CHAIRPERSON MORAN: Thank you, Julia. And Julia is doing exactly the kind of thing we've been talking about, which is already moving on to next step, thinking about alternatives assessment considerations and so of these other things. So that's actually a good example of the kind of thing everyone wants to know and talk about, but perhaps doesn't fall into the minimum requirements for potential exposure to the candidate chemical and potential for the exposures to cause significant or widespread harm.

So we've got Bill and Ken Zarker and then we'll

be moving on to the folks who want a second bite at the apple. So Bill Carroll, your on.

PANEL MEMBER CARROLL: Thank you. Thank you, Kelly, and thanks to Director Rafael for the nice compliments and happy birthday as well. I have a couple of comments. And I don't know whether what I'm about to say went into the process that led up to the documents or not. And if it did, please forgive me.

And I want to take just a moment to talk a little bit about the PowerPoint presentation and the slide "Lessons Learned and Keys For the Future", which I thought very interesting. I appreciate Tim's comment with respect to the symmetry of increasing transparency information in exchange with civil society as well. For the moment, I'd like to talk a little bit about that bullet point with respect to industry.

One of the things that I think is true about when the State takes action, even if it's a nominated action like this, that the kind of impact that you can have is very similar to talking about where you -- to talking about where you might locate a highway and what happens to real estate values when you have those discussions?

That simply the idea of having a discussion about something can create concern, response, and so on. So I'm kind of wondering as I look at increasing transparency and

information exchange with industry, I think if that were possible, you might have fewer comments like you heard in the public comment period.

But I guess I'm not at all sure how you would go about doing that in a way that didn't, more or less, cause a reaction or change the playing field itself?

I do think having more practical information coming from industry would make a difference, and it may help in some of these decisions. Perhaps there are ways of finding experts with whom you could consult to check on the sorts of things that might have come up, for example, as in the public comment. I'm not exactly sure how to tell you to do that. I do think it's a good sentiment in terms of getting things right, but I'm not exactly sure what the right answer is. Also, in a way, maybe this reflects back on some of Don's comments as well.

But we're talking about a number of -- really three very different kinds of products here. One, we're talking about that is a material that's used and used up, that being the paint stripper. One is one that has probably a relatively limited lifespan, and that being the children's products.

And a third that's meant to have a very long lifespan and be in use for a long period of time, and that's kind of where I want to go once again.

I recognize that all we're talking about here is a nomination of a priority product with a chemical of concern. And there's going to be an alternatives assessment, and then we decide on what the remedies are later on.

But to the same point of the implications that the Department's decisions could make, I suspect that you will be getting questions from people who have this foam installed in their houses about whether they are at significant risk as a result of that, simply because of having nominated the product. And I'm simply speculating there.

So this, I think, is another consideration that you might think about as you go about selecting products is making sure that you're able, as some people have previously said, to put enough of a box around it, so that people know exactly what you are talking about, what you're not talking about, and what the implications are and are not.

And all I can tell you is it's very difficult to be doing this from a remote area. I can hear everyone, but it's not the same as being able to see the body language and interact with you facially.

Thanks very much for the opportunity to intervene.

CO-CHAIRPERSON MORAN: Bill, thank you very much. Your comments, as always, have great insight, and you would have seen nodding heads around the room and pretty wrapped attention here including from the staff. So we appreciate you making the extra effort, even though it's much more difficult to participate.

So we're on to Ken Zarker, and then we'll be moving around for second opportunities.

PANEL MEMBER ZARKER: So, yeah, Ken Zarker. Very briefly, I do want to compliment the agency on the profiles. In fact, getting them out earlier than anticipated I thought was very good and helpful to the discussion.

The only thing I might add in terms of thinking about the three-year workplan and things to consider in the future, and we've talked about this a lot in terms of this being a journey going forward, so something very basic and maybe practical would be to provide translations of some of these terms into secondary languages, because I found that there's increased interest, and particularly as consumers learn about these issues, there's an opportunity to put something out. It's a fairly straightforward process. I think it would help educate folks as well.

CO-CHAIRPERSON MORAN: Thank you, Ken.

Before we go around for a second bite, I'm just

going to briefly take the prerogative of Chair to way in with just a couple of brief comments.

And I like the others, I do want to commend the Department on the quality of the profiles. One of the things I often do when looking at stuff from government agencies is to see how many references are there, and what kind of references they were, because so many people are sloppy in their writing in government, and this was exactly the opposite. So I was impressed with the thoroughness of the documentation and the nature and quality of the citations that were there.

And as Ph.D. scientists, we all do that, but that's something I think that will serve the Department well as a model for future ones.

I was a little concerned that these were almost to strong, in that the two criteria that were on the slide we were looking at before might be met by a much simpler set of evidence for other kinds of products. So I'm thinking of products that have previously been regulated and so forth. They don't have a whole long list of all of these things. They have a particular just couple of things that they do, and that's enough to merit the listing.

So I don't think we should be setting an expectation that the two factors have to be -- there has

to be evidence for eight different types of populations and all these other things that -- it just has to be specific in those two categories. That's enough.

So specifically I wanted to come back to the major source thing. I thought about this two different ways. If someone could please bring up the slide that we were looking at earlier that stated the two decision-making categories, that would be really helpful.

I saw this two ways. One way was when I read the foam mats profile, it mentioned aquatic -- the presence of the TDCPP in aquatic life. And immediately I did the same thing that I think Helen and some other folks have done, which says well, we don't know that that came from the foam mats, and we don't know. But we actually don't know how it got there, so we don't know it doesn't come from the foam mats and other similar kinds of sources.

And I think the Department should feel free to acknowledge that. We don't know, but we do know that it's out there, because having that in there says that there is or could be a pathway between the use of this chemical in waters and so just acknowledging that is important, even though that specific linkage has yet to be proved.

So that's a big thing. But I note that the words here under exposure in the second bullet, potential for exposures to contribute to or cause either significant

being a small group of people or organisms that are seriously harmed, or widespread, which means a lot of organisms or people have some less important effect, but it's still widespread.

It doesn't say that it has to be the biggest, the major, all the rest, it says that it needs to contribute. Now, clearly, we're all thinking that the contribute -- contribution has to be meaningful enough to merit the economic costs of going through the whole alternatives assessment and really thinking about that particular use of that particular chemical, but I caution against people saying it's got to be the biggest, because proving that is really hard.

I lamented, although I like the selection of a group of products here. The goal is to really pilot this program. And pilot is probably the wrong word, but to try to understand how it works. We're all learning about how it works. So I'm kind of missing a product that has a non-human hazard as its primary driver, but I will point out that we're going to do that learning anyway, because the law that regulates copper in vehicle brake pads requires those manufacturers to use any guidance put out by the alternative -- by the Department for AAs to assess the reformulated products that they're making.

So the Department is going to have that learning

experience. And when we're thinking about AA guidance in the follow-up discussion here, we need to be thinking that our examples are actually for the three products that may be listed, and the one that already must follow this, which is vehicle brake pads.

And then finally, I'm hearing some things in our discussion that we might want to make sure we note up there. One of them is the process for product selection is something that we should probably stick in the parking lot and think about a follow-up discussion, because like Tim I'm also thinking about not just starting at the bottom and looking at product chemical combinations that are being suggested, but also starting at the top and asking the questions about environmental and human health problems.

And the linkages aren't always there, but to the extent the linkages are there to be at least thinking about that question. So that's maybe something we can come back to in another forum.

And I also heard a lot of discussion about what the word significant means in the second bullet on this slide, and some proposals of very different ways, I think, of defining that. So that might be something the Department will wish to come back to with us.

So with that, we have -- given that we had a

little lateness in the break and another wonderful opportunity to hear from Debbie, I'm going to suggest that we extend the morning session for at least another five minutes, so at least we'll have at least ten more minutes, and offer Panel members an opportunity for a brief second comment.

Right now, on that list I have Ken, Tim, and Helen. And if anyone else wants to make a second comment, please put your tag up, and I'm going to ask you to keep that brief. So thank you.

PANEL MEMBER GEISER: Okay. Well, I spoke earlier about process, so just let me say a word or two about content and as well. I do think they are sufficient. So the answer to the question I raised before is I do think that these are sufficient.

There are a couple of things though. I do think the lifecycle stuff, I do believe that is part of the way we need to think about these products. And if not the actual manufacturer, certainly what happens to the product in its use pattern and through to its disposal pattern. And I think that there -- the three of them are uneven in that. There's not enough discussion about what happens with the waste -- at the waste end, and also what happens in, for instance, in deconstruction, what happens to the exposure to workers and the environment during

deconstruction of the foam itself?

But also in terms of fire, what happens in both -- in -- particularly with regards to the mattresses or the insulation during fires, which also seems to me there is probably some information on it that could be put into this.

The second thing I would say there's a table, I think, in the polyurethane one that differentiates a couple of different products and then -- or different uses of isocyanate, and I think that that was very helpful. I know it was a U.S. EPA table, but I like the idea of a table. It helped to rationalize. A lot of it was lists. Tables, I think, create a bit of a more disciplined character to being able to display that information. So I might suggest using more tables like that, because it would allow you to breakout, for instance, the various sleeping pad differences between a play pen and a whatever else might be there.

The last one has already been mentioned by Julia, but I want to note this as well, and that is on the methylene chloride, it does occasionally use the word -- and I noticed, Andre, you used it as well, of surface cleaning. Surface cleaning is different than paint stripping, quite different than paint stripping.

And I -- there is a lot -- there is a lot of

methylene chloride used in surface cleaning. The lab that Naturi has a whole bunch of examples of how to remove methylene chloride from surface cleaning work. And I wonder whether you really want to pick up that. It looked to me like a sleeper in this thing that's going to -- that would get that very big, where I think you really want to focus on paint strippers, varnish strippers and those kind of things, because by leaving that in there, I think you open yourself up to a much wider universe, bigger scope, as Done said.

So I would urge you maybe not to take that one on at this point. Those are my comments.

Thank you.

CO-CHAIRPERSON MORAN: All right. Brief second comments. I've got Tim, Helen, and Meg.

PANEL MEMBER MALLOY: Thank you. I wanted to echo what you said. It was an eloquent, and may I say, lawyerly parsing of this.

(Laughter.)

PANEL MEMBER MALLOY: So I won't do that, but I agree entirely with what you said, although it took a little long.

(Laughter.)

PANEL MEMBER MALLOY: Just a few points. One, on this economic part of it, while I recognize the importance

of economics, I'd go a little further. You pointed out, Kelly that, economic analysis is done as part of APA process. I would say, actually, the -- I'd say economic impact cannot be considered in the product listing, the prioritization. If you look at the Statement of Final Reasons, this was taken up and it was pretty clear that the Department was saying here's a set of factors, factors we have to consider, factors we may consider. And economic impact was not one of those factors. So my reading of it is that you shouldn't be taking into account economic impact.

On the AA thresholds, I just would emphasize that the regulations give you the discretion to do the AA thresholds. It does not require an AA threshold in every listing. On the lifecycle issues, I would just kind of get a little more specific than Ken's point. I think, Don, what you were saying is, you know, it's -- when you're comparing this to other programs, it might not be appropriate to kind of dis the other programs, because they're looking at different lifecycle segments or so on and so forth, if I took that correctly. I don't know if I got your comment correctly.

But if that's what you meant. I think it actually cuts the way Ken talked about it. One of the important things is when you're looking at the other

regulatory programs is to ask will they capture the effects that we're worried about at each of the lifecycle segments that we're worried about? And if the other reg doesn't do that, then the other reg is not a -- shouldn't be kind of viewed as a substitute for what this program would do.

And then the last point I want to make was maybe a question, maybe a comment. I notice that it looked like each of these just identifies one chemical of concern in the priority product. I don't know if that was intentional, but it struck me that -- so, for example, for the spray foam, I thought I read in there, there was an identification of the chemical you identified, but then also in some formulations there's flame retardants. And with the strippers, it seems to me like there's probably other chemicals in there.

The regs are -- I think are pretty specific. They say, look, you can list more than one chemical of concern for a product. And, in fact, even in this first round, the first round just says one or more of the chemicals of concern have to be in that list of endpoints we're worried about, but you've certainly got one. So I done think that should restrict you from asking are there other chemicals of concern that, while we're at it, ought to be looked at as part of this.

I say that with a little trepidation, because it's not clear to me what the implications of that might be downstream, right? So, for example, it's possible that I remember in other iterations of the regulations, I had been worried because it seemed like the Department was focused too much on the chemicals of concern, once you got into the AA, right.

So I'll be honest, I mean, you asked me about priority process, to me it seems like you ought to be thinking about the other chemicals of concern. And I guess the chips ought to fall where they may, in terms of what the regs do later on in that process.

So I would recommend thinking about -- going back and looking and thinking about whether, you know, there's more chemicals, other endpoints that ought to be included in the listing.

Thank you.

CO-CHAIRPERSON MORAN: Thank you. We've got Helen and Meg between us an lunch. I'm not seeing any other flags up, so I'm assuming, at this point, everybody else will be complete after this.

Helen.

PANEL MEMBER HOLDER: So I wanted to touch on the topic that Julia and Cal both raised about that you can have groups of chemicals that have a spectrum of behavior

in terms of toxicity. And so I'm just going to suggest that this be a parking lot item that we come back to in more detail is maybe the Panel can provide some technical guidance on how to successfully group substances that might have slightly different profiles, but you might want to consider together for the purpose of the regs.

CO-CHAIRPERSON MORAN: Thank you.

Meg.

PANEL MEMBER SCHWARZMAN: I just have a brief question actually. I wanted some guidance for sort of the feedback that we have for the Department that's kind of too small to bring up in this setting. How do you want that from us?

It's detailed things that -- you know, little extra pieces of evidence that we thought might be better used or something like that. What form do you want that in?

DEPUTY DIRECTOR WILLIAMS: Just email us.

PANEL MEMBER SCHWARZMAN: Okay. Thank you.

DEPUTY DIRECTOR WILLIAMS: And you can email Karl or me. That's fine. And we'll direct them if you happen to know other people on the team. Andre did lead the product selection team, so he's a great go-to on that.

PANEL MEMBER SCHWARZMAN: Got it. Thank you

CO-CHAIRPERSON MORAN: Okay. So I think we're

complete in putting in some very interesting discussion and comments here.

I want to point to the parking lot. Kind a small print back over there. Maybe Meredith are you able to read that or can someone read that. You might have to eat the microphone to do that.

DEPUTY DIRECTOR WILLIAMS: So what we captured for the parking lot items were to consider adding AA guidance specific to the products, within the profile or, you know, very soon after the product is announced.

Discuss systematic prioritization process for the next round. How are we making our decisions? Are we casting a wide net? Are we working off of nominations making sure we're not looking for the keys under the lamppost.

The third one was to discuss and define what significance means in our significance criteria for listing a product.

And the last one that we captured was develop some technical guidance for groups of chemicals that may have similar properties.

CO-CHAIRPERSON MORAN: Is there anything else that the group thinks that we -- did we miss anything here?

All right. And I'm not seeing any other

comments. Is there anything else you want to say at this point?

DEPUTY DIRECTOR WILLIAMS: No. Just how tremendously helpful it was. We're glad -- we really appreciate knowing we got a lot of things right. And I guess I will use this as an opportunity just to respond to the general concern about what was the process. And because it was the first time out, you know, we were investing the process as we did the work. And one thing we talk about a lot on the team is how to make the process more systematic and robust and transparent moving forward.

So a lot of these concerns that were raised about that I think are -- we take that very much to heart. So thank you for that particular input among the other input.

CO-CHAIRPERSON MORAN: All right. So I'm seeing as we're already somewhat into our lunch break. I'm going to -- we'll thank you all, and we'll be calling this for our lunch. We'll be reconvening in this room at 1:00 o'clock. Panel members, you're going to need to be escorted upstairs to the place where our food is, because that's a secured area. So we'll want to do that in the next couple minutes. There's an opportunity for a restroom break before we go.

And as a reminder to Panel members, please be aware of Bagley-Keene, and don't be discussing our

substance, so we don't have any Bagley-Keene violations.

PANEL MEMBER CARROLL: And, Kelly, I'll call back in just before 1:00.

CO-CHAIRPERSON MORAN: Thank you very much, Bill. I really appreciate it.

DEPUTY DIRECTOR WILLIAMS: Corey, will the room be secure? Will somebody stay in the room with --

MS. YEP: Take your belongings with you.

DEPUTY DIRECTOR WILLIAMS: Take your valuables.

PUBLIC PARTICIPATION SPECIALIST MAJHAIL: Please turn the microphones off.

CO-CHAIRPERSON MORAN: Oh, yeah, please turn the microphones off. And Panel members, I'm going to suggest that we make a practice of turning them around, because it seems that you can -- the reason ours was on earlier was that a piece of paper touched it. I mean it takes so little to turn this thing on and off. So basically take it, turn it around.

(Off record: 11:52 AM)

(Thereupon a lunch break was taken.)

A F T E R N O O N S E S S I O N

(On record: 1:05 PM)

CO-CHAIRPERSON FONG: Good afternoon. It's my pleasure to welcome back the Panel members and to start this afternoon's session on DTSC's progress on the alternatives analysis process. Before we actually get into the presentations, I'm going to turn the mic over to Director Rafael, who is going to tell us about her busy schedule.

DIRECTOR RAPHAEL: Yeah, sorry. I just wanted -- just so that I don't insult you guys. I am going to be in and out, so I'm not going to -- I don't want you to stop for me. I mean, I'll just come -- I'll just get up and down as I need to with different things, so I just want to give a head's up. So at 2:00 o'clock I have to be on the 25th floor, then I will try and come back and -- so -- but if it doesn't -- if you find that annoying, then I won't come back, but I'm just hoping you don't find it annoying. There we go.

DIRECTOR RAPHAEL: Meredith says I get to come anyway.

(Laughter.)

CO-CHAIRPERSON FONG: Excellent. The first presentation this afternoon will be from Bob Boughton of DTSC. And Bob is going to be providing a status update on

the alternatives analysis guidance development.

Bob.

(Thereupon an overhead presentation was presented as follows.)

SENIOR HAZARDOUS SUBSTANCES ENGINEER BOUGHTON: Thank you. Is it working?

Good. It's my pleasure to be here today. I'm engineer in the SCP Program, and a member of the AA guidance development team. So I'm going to update you on what's happening in our development there. Hopefully, I do this right.

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SENIOR HAZARDOUS SUBSTANCES ENGINEER BOUGHTON: That's that one.

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SENIOR HAZARDOUS SUBSTANCES ENGINEER BOUGHTON: So kind of to catch you up on the past and, you know, why we -- we're very interested obviously in learning everything that we could on AA and what sort of tools there are, what the practice is, so back in 2010, we had several symposia and several of the people here in attendance spoke at those. We learned a lot. We continue to learn and that started us off down the pathway really and it -- those symposia helped inform the regulations development as well as kind of get us started in

understanding the topics and introducing us to the community of practice.

Since that time, we've been engaged in several different initiatives. One is -- was the IC2 AA guide development that was completed last year. It was almost a two-year long effort. And we worked with the OECD ad hoc committee on development of their meta-study and continued to work with them on their toolbox development.

And we've been engaged with the greater Commons effort. They pulled together a principles. They've talked about education needs, and many other topics, as well as just the general use of AA. There's been many workshops held and webinars and things like that. So it's been great. It's a small community still, but it's growing.

We also listened in intently on the BizNGO and HP case study development that went on mostly last year. Learned a lot that helped inform the regulations, as well as some of our work. And we continue then to track the DfE projects and the HESI and ASTM efforts. The ASTM is talked about potentially developing standards for AA. So we're not sure really where that's going, but we're participating in tracking those.

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SENIOR HAZARDOUS SUBSTANCES ENGINEER BOUGHTON:

You heard some this morning about the timelines. I just kind of want to drop in the AA development, mostly because the -- some form of guidance needs to be complete before the first priority product is actually adopted. So sometime before the middle of next year, we need to have at least the first round done.

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SENIOR HAZARDOUS SUBSTANCES ENGINEER BOUGHTON:

Beyond that, our bucket list, our wish list, is to conduct trainings that are applicable. So we hope to look at the EPA tools, and other tools, QSAR tools, sustainable futures tools and have some trainings around those, as well as GreenScreen and P2 Oasis and others for hazard screening, exposure modeling and lifecycle aspects. So we hope to cover on all those topics, if we can.

We hope to hold workshops on AA methods and tools mostly aligned with our regulations really marching through the steps and following along what is in the regulations for conducting an AA.

And if we can get together with a consortia or an individual of interests, we hope to conduct a pilot. And that also will help us understand more about the AA process. And then down the line, as folks that have priority products begin doing AAs, we hope to assist them in doing it as well. So this is the, you know, continuing

education of us. And these will all lead into improvements in the guidance as well.

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SENIOR HAZARDOUS SUBSTANCES ENGINEER BOUGHTON: When we began to consider developing a guidance, some of the key considerations then that really boil up and let us, you know, some pause, one is that the regulations provide a framework, steps, and, you know, specifics on what needs to be considered for AA, as well as reporting requirements.

And we know that the regs are the only aspect that are enforceable. And the guidance then is meant to assist and provide tools, but not necessarily tell them how to do an AA.

We also -- it's clear that the AAs need to be comprehensive and complete because they are meant for the regulatory -- or the -- not the regulated entity, but the responsible entity's decision making all with the intent of avoiding unintended consequences.

And it's very important for those studies, because they inform our regulatory response. Over the years, we've heard, you know, many times that large entities will very likely follow their own protocols and their own product development, methodological approaches, when they -- if they do -- or do an AA. So we're looking

at guidance being focused more on the small- and medium-sized entities, and making the assumption that they have the ability or would be able to find consultants that have the capabilities to perform all of the steps.

Translating that, then it means that the guide is not going to be a primer for the man on the street. We're not going to give basics on toxicology and things like that. We just can't.

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SENIOR HAZARDOUS SUBSTANCES ENGINEER BOUGHTON:

So as far as the guide approach of following those considerations then, the draft at this point follows the regulatory requirements. We really -- if you look at the table of contents, it just marches right along with Article 5 and the steps.

We recognize that whatever is in guidance needs to have flexibility, because you have a huge variability in products, some formulated, some articles, some are very complex, some are quite simple, and a smattering of different types of companies with different rationales and different approaches. So we need to get that flexibility to the people conducting the studies.

We intend to, you know, really in the guide mostly to provide long lists of tools, methods, and approaches, data sources and case studies that are

examples, and help people to understand and to try and conducted each step.

We don't intend to provide weightings or thresholds or criteria. That's something that I think the regs and the discussions and the Statement of Reasons and those things back up, that the responsible entities need to do the studies. And they need to tell us how they did it, and back it up basically, so they can apply their value systems.

We also want to evolve the guide over time, hopefully sooner than later, to understand if there are nuances and differences between formulated products and articles, different approaches, lesser more appropriate tools, whatever it may be that we can give for guidance. And most of all, to recognize that it will be a living document and we'll be updating it, adding to it, adding case studies over time

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SENIOR HAZARDOUS SUBSTANCES ENGINEER BOUGHTON:

So as far as the status, kind of got into this, we've drafted most of the chapters, some are well developed, some are not. We're still in discovery, still trying to learn more about certain aspects. But we hope to hold public workshops in the summer and fall. And with the goal at this point is still to try and have a guide

completed near the end of the year or the early of 2015.

So, in closing, I just want to acknowledge the team members. There are others that have worked with us in the past. They know who they are. I won't go through the list. That's it. Thank you.

CO-CHAIRPERSON FONG: Thank you. Excellent. Are there any clarifying questions for Bob on what was presented?

Helen.

PANEL MEMBER HOLDER: You mentioned that you're going to be running your own pilot alternatives analysis.

SENIOR HAZARDOUS SUBSTANCES ENGINEER BOUGHTON: We would like to.

PANEL MEMBER HOLDER: Is the intention to take one of the three combinations that have already been put forward or would you just be going for something that you think you could be successful at doing the assessment?

SENIOR HAZARDOUS SUBSTANCES ENGINEER BOUGHTON: I think it would mostly depend upon who would jump in the sand box with us. If we could get someone who had one of the three to participate or a consortium, that would be wonderful. If we got someone that is still in the space of a consumer product with a problem chemical, that would be great. If it has to be detergents with phosphates just to prove the system, then that's what we'll use. We'll

get -- we'll take whatever we can get.

CO-CHAIRPERSON FONG: Ann.

PANEL MEMBER BLAKE: Thanks, Art. Thanks, Bob.

Just a question for you. You said you're not anticipating providing thresholds criteria or weightings. But at some point, DTSC is going to have to decide what -- whether the weightings and criteria that come in are adequate. So where are those criteria being developed? Is that part of the thinking in building the guidance or is that happening somewhere else?

SENIOR HAZARDOUS SUBSTANCES ENGINEER BOUGHTON:

Well, I think that will come later in terms of figuring out how we will evaluate AAs. We haven't spent much time thinking about that at this point. You know, kind of the compliance hat has to come on. Obviously, it's fairly easy to do a completeness check. And that's one thing I think we'll easily be able to perform in the 60 days that is our initial review period. Otherwise, yeah, it's just not well thought out exactly what we'll be doing.

The other aspect to remember is that the final report, unredacted portion, is out for public review and comment. So if we hear from other stakeholders, competitors, or whatever it may be that, hey, these guys didn't look at this alternative or this data is cooked or

whatever it happens to be, we'll learn from others, and we won't have to go into try and validate everything in an AA. That -- you know, we'll see how that plays out.

CO-CHAIRPERSON FONG: Julia.

PANEL MEMBER QUINT: Julia Quint.

I had a similar question about criteria, but now I'm a little bit confused as to what we're talking about. You're talking about criteria for the whole AA, as opposed -- because I'm thinking for the health hazards and environmental hazards -- well, for the health hazards, you know, we have the globally harmonized system that's being incorporated into hazard communication. So there are criteria out there that people who make products have to use in order to develop MSDSs. So are we throwing it wide open to people to -- for that aspect as well or --

SENIOR HAZARDOUS SUBSTANCES ENGINEER BOUGHTON: I don't think so. Where there are established criteria, we could certainly bring that up, and it would be hard for someone to use something else and justify it, but we don't want to be establishing criteria ourselves for things that aren't established like that, so certainly those would be in our case studies or our notes of, you know, tools, methods, and approaches, as best practice. That would be something that we would note.

PANEL MEMBER QUINT: Yeah, I understand the

reluctance to be top down and, you know, to dictate. You want to keep it flexible, so I understand that. But on the other hand, if there is something in your back pocket that you're going to be using to, you know, assess these things, I think, you know, to be transparent, it would be good to put that forward, because I think a lot of small- and medium-sized companies that you're directing this to. Because even with the GHS, I mean, it's very wide open in for -- some of the endpoints, you know, for cancer.

I mean, you could have to look at a cancer study, which probably only Cal and a few people are, you know, capable of doing. So I think, for me, guidance is really, you know, helping them as much as possible, which I'm sure you're -- that's the aim.

So I think there's just a balance between not dictating and being flexible, but being helpful and knowing if you have criterion in your head, that -- to put that forward as something that people should be aiming for.

SENIOR HAZARDOUS SUBSTANCES ENGINEER BOUGHTON:

Yeah, that's a great point. So we'll try and focus on that and actually in our public outreach, we'll ask for that. You know, have we captured the most appropriate guidance in that realm? Thank you.

CO-CHAIRPERSON FONG: Thank you, Bob. Thank you,

Julia.

Cal.

PANEL MEMBER BAIER-ANDERSON: Cal Baier-Anderson.

Bob, I'm going to raise the T word, trade-offs. So there are trade-offs on so many levels that come into play here. You know, just on hazard alone, chemicals are complex and maybe you find one that's, you know, not carcinogenic, but it's developmentally toxic. And it's really, really difficult for anyone, everyone, for all of us to kind of grapple with those trade-offs, let alone all the other criteria that come into play.

Are you just leaving it up to the assessors to grapple with that? Will there be some guidance? Will it be somewhat product specific? Some products may be more, you know, water or air releases might be a greater concern, so that gets weighed more heavily?

SENIOR HAZARDOUS SUBSTANCES ENGINEER BOUGHTON:

Right. I think the philosophy behind it is that the assessors are supposed to do this, but whatever we can provide. I think the place where in the guidance that we will be the most helpful in that realm is by examples. And it may be what someone else is actually done or it may be, you know, just not so much a broad case study, but a specific case aspect and kind of show where it went wrong, or where this worked out, or different ways of doing it,

you know. That's something we've been struggling with, because we know trade-offs is really going to be where it meets the road, but we know companies do that all day long. So they should be able to apply their, you know, knowledge and their understanding and explain how they've done that.

Now, the problem is then the smaller companies aren't used to doing that, the large multi-nationals are, so how do we get that information to them. And that's where I hope that the larger multi-nationals help us in the guidance development with the feedback and help us along those lines.

And, you know, what I'm kind of gathering here is that we probably will want to ask questions when we're doing the public roll-out of the guide rather than simply here what do you think, you know, but some key aspects that we want to draw information for.

CO-CHAIRPERSON FONG: Debbie.

DIRECTOR RAPHAEL: Yeah. I mean, Bob just said what I was going -- so you're bringing up some very important issues, the issue of prioritization criteria. So do we just say whatever decision you make is fine, we're not prioritizing, and how do we deal with trade-offs?

I mean, those are really large issues. And I

think what Bob is telling you is that we're approaching this with a general philosophy. At the end of the day though, to your point Julie, it has to be helpful. I mean, it's -- if it's simply just here's what's out there in the world, that isn't necessarily going to get us quality.

Having said -- so as we workshop this, as we start to get things on paper and we start to put things on there, you will see how we are dealing with trade-offs, how we are dealing with this. It may be too vague for you, and you may say, you know, what I think you could go -- actually, my -- your recommendation might be to go down a path, others might disagree. But that would be what we would hope to get from all of you, as well as others. And I think that's what you meant, Bob, when you were saying we'll put something out and take a look.

These are -- and that's part of the problem with a discussion like this that still doesn't have anything on paper for you to look at. It's a little hard to address it. It's more to say here's our schedule. Here's our philosophy.

However, having said that, the legislature did not give us a prioritization. It did not say that those A through M criteria are weighted differently. And our regulation does not. So were we to put that, we cannot

regulate that. That would be an underground regulation for us to say you have to weigh something. So the regs -- a decision has already been made in the structure of the regulation to not legislate, to not require it. So that's going to be a little bit a part of the learning curve is we're already -- we're sort of, I won't say, stuck with, but we're going to start with a more it's up to you to be transparent to the world and tell us why you prioritized, how you dealt with trade-offs, and therefore, given that what you recommend you're going to do in terms of you're substitution or not, and then we regulate you accordingly.

So that's the dance that we're going to do and start off with. If at the end of it we find, wow, that's just too squishy, then we may need to go back and do some regulation around prioritization and trade-offs, because otherwise as a regulatory agency, guidance is not mandates. We are beyond mandates now. So that's why Bob is sort of saying we've got these philosophies, if you will, yeah.

CO-CHAIRPERSON FONG: Mike, you had your flag up. Are you still interested in making a comment.

PANEL MEMBER CARINGELLO: Cal said what I wanted.

CO-CHAIRPERSON FONG: Okay. Excellent. Next up it's Tim.

PANEL MEMBER SCHWARZMAN: Is this still

clarifying questions?

CO-CHAIRPERSON FONG: Yeah.

DIRECTOR RAPHAEL: I did that.

PANEL MEMBER MALLOY: I just wanted to ask, in Article 6 of the regulations there's regulatory response selection principles, which seem on their face to prioritize certain things, such as inherent protection, alternatives of least concern, so on and so forth. So embedded in that appear to be some judgments -- normative judgments about -- that give people at least a sense of preferences.

So, for example, inherent protection preference in 69506(b) says you shall give preference to that. And then in (c) it says there's another set that the Department may consider. So I'm just wondering to what extent will the guidance or the decision-making and reviewing, since we kind of bled into that, reflect kind of normative weighting or at least preferences for certain factors? Does that come in -- will that come into it at all?

SENIOR HAZARDOUS SUBSTANCES ENGINEER BOUGHTON:

At this point, I would say I don't know. Just -- it's down the road. We haven't spent that much time really thinking about it, but that -- you make a good point. We'll go back and look at that again and see if

that helps. At least it's there. It's something we can reflect back in the guide that here's what is in the regs for a response. And that does imply some order there, like you said.

CO-CHAIRPERSON FONG: Thank you very much, Bob. I'm seeing no more questions. Let's next move on to Hortensia Muniz, who's going to be doing a presentation on how the A through M criteria in the law translates to regulations.

Hortensia.

SENIOR HAZARDOUS SUBSTANCES ENGINEER MUNIZ:

Good afternoon, everyone. I will -- as Art mentioned, I will be walking you through the A through M criteria that's in statute, and how that translated into the regulations.

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SENIOR HAZARDOUS SUBSTANCES ENGINEER MUNIZ: But before I do that -- let me see if I can get on the right slide.

Okay. Well, for some of you, it will be a review of old -- or just ground that we covered before. And it would be very familiar to you. But for some of you, it might be a little bit new. And so for that reason, I'm going to step back just a little bit. And it was interesting that we were discussing this morning and

earlier this afternoon noon about, for instance, including economic impacts in the prioritization piece. And if the regulations don't allow for that, we cannot do that at this point.

If we were -- had wanted to include that, it would have had to have gone into the regulation package at that point. And for that reason, I wanted to spend a bit of time just saying that the statutory language gives us the authority to adopt regulations with the authority that's granted to us in that statute. We can't give ourselves any authority or grant ourselves any latitude except for carryout what the legislature intended for us to do.

Similarly, when you look at the regulations, once we've adopted the regulations, the regulations also establish the framework. They establish the boundaries of how far we can go with something, how far and narrow. Now, there are some areas where it gives us a little bit of discretion, but we can't go so far that it becomes an underground regulation.

So, for instance, if we were to develop weighting criteria that's not spelled out in the regulations, we wouldn't be allowed to do that.

So that's -- when you look at -- I would caution you that we don't keep going back to the grounds where we

include something that's actually not included in the regulations, because we can't. It's just -- if we wanted to -- as Debbie indicated, if we wanted to do that, then we would have to go back to regulations and then edit the regulations, amend them, and then consider that in the future. So that's just a little bit of background. I know that in the prior Green Ribbon Science Panel, we kind of got stuck around the assessing a fee or bypassing certain stages of the AA so that we could get to regulatory responses. But if you looked at the statute, it didn't allow us to do that, and that's why the regulations were crafted the way that they were.

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SENIOR HAZARDOUS SUBSTANCES ENGINEER MUNIZ: If you're familiar with the statute, there's 13 criteria. It's the A through M criteria that a lot of us refer to.

If you look at them, they're not in any particular order in terms of not even alphabetically, and they're not even weighted one way or another. And for some of us, it had been in the environmental side of the -- we would think that there's a lot of overlap or some sort of like conflict with it. For instance, when a lot of us talk about environmental impacts, we think soil, water, and air. Yet, when you look at some of them, there's water conservation, water quality impacts. You

have air.

And so you start saying, well, wait a minute. There's either duplication or overlap. So when we were developing the regulations, we tried to be aware of what this criteria was, and then also pay attention to how some of these terms were already defined elsewhere in California, because we wanted to make it easier for entities to comply with the requirements and not be consistently, you know, just being at an impasse with these requirements.

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SENIOR HAZARDOUS SUBSTANCES ENGINEER MUNIZ:

Also, in the statute, there's a requirement that all A through M criteria must be considered in the AA before a regulatory response may be applied. So if you recall, when we were discussing the regs back some years -- or a year ago or so, there's a two-stage approach. And it was intentionally for that purpose, we wanted -- there was a desired outcome, and we thought, okay, how can we streamline the AA process to get to a regulatory response when we know that there is a prescriptive endpoint? And that is why the regulations were crafted the way they were, so that we could get to regulatory response as soon as we could.

So you go from -- you know, stage 1, you know

there's not a feasibly, economically available alternative. It allows you to go to R and D as one of your alternatives. And that's why that was -- so I just wanted to make mention of that, that we must go through all the A through M criteria before we move forward.

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SENIOR HAZARDOUS SUBSTANCES ENGINEER MUNIZ: It's not moving forward. Okay. The A through M criteria, there's some benefit in them. They're very comprehensive. If you look at them, they're also -- they capture a product like cycle impacts. I mean, it covers the whole gamut. And then, as I mentioned earlier, there's some challenges with it. It's that there was some overlap in the criteria. Some of them were not consistent with terminology. Some of us may be, you know, familiar with in either conducting an AA or an LCA assessment. And they don't align with other standard scientific areas of focus. So that's -- so those were some of the challenges that we were working around.

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SENIOR HAZARDOUS SUBSTANCES ENGINEER MUNIZ: So the consumer -- the Safer Consumer Product regulations use terms, to the extent practical, that were already defined here in California. We took -- we looked at OEHHA's definitions, the Water Board, Cal Recycle, the Air

Board's, and thought, okay, we're going to align our regulations as much as we can to these regulations, so that we provide that consistency and lessen the amount of time that we would be in conflict with those regulations.

And also, our regulations are consistent with other lifecycle assessment tools, in that they require that you assess or scope the AA in the first stage. And then in the second stage, then you go into a deeper dive, do more evaluation and then reporting out on what your findings are in that assessment. And so that completes your whole AA in two stages.

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SENIOR HAZARDOUS SUBSTANCES ENGINEER MUNIZ:

Either I'm not pressing hard enough or -- there we go. Okay. The A to M criteria, they're not a one-to-one correlation in the regs. For example, we've got product function, which is criteria A, the useful life, criteria B, and product use. And they're all combined and addressed in multiple sections of the regs. And there -- these are the sections. They're defined in Article 1.

And then in Article 5, they're used in the first stage and in the second stage either where you do the initial assessment and then a more deeper dive in the second. That's a simpler explanation of those.

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SENIOR HAZARDOUS SUBSTANCES ENGINEER MUNIZ: So now when you look at like, for example, the L criteria which is the environmental impacts or environmental -- yeah, environmental impacts, we redefined it to adverse environmental impacts and it's also defined there.

And under that, you've got -- now, you've got that whole air, soil, and water, and ecological impacts. They all roll up into that one environmental adverse impacts.

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SENIOR HAZARDOUS SUBSTANCES ENGINEER MUNIZ: And for a graphic of that I wanted to spend just a little bit of time to explain how -- the way they're defined is that it sort of has a rolling up or a fanning out of factors that are included under one -- anyone of those definitions. For example, when you look at air -- adverse air quality impacts, now you've got the California toxic air contaminants. You've got emissions of greenhouse gas emissions, which greenhouse gas emissions was a criteria of its own within the A through M criteria, and so on and so forth.

So I'm not going to spend any time on that. It's just to illustrate how some of these terms roll up or fan out to include a number of other factors within that

term, but -- and so when you look at the regs, there's not that one-to-one correlation, and you can't always immediately see where they're picked up in the regulations, but they're in there.

And the FSOR goes into a little bit of explanation of how they got captured, and why we believe that that was the appropriate balance.

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SENIOR HAZARDOUS SUBSTANCES ENGINEER MUNIZ: As I mentioned a little bit earlier, there's some options that are available to responsible entities to comply with the requirements. And a lot of it was geared around making it flexible, making the regulations flexible and workable around what is already occurring, so that we have this 2-stage AA, which -- where you could -- then we've got the Abridged AA, the Alternate Process AA, and the Previously Completed AA. And I believe the next slide will go into a little bit more detail of when these options are more suitable.

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SENIOR HAZARDOUS SUBSTANCES ENGINEER MUNIZ: The 2-stage AA is when you want to compare a priority product to one of more alternatives that you know that there is out there and you just want to identify which one is the most suitable one for your particular case, or to

demonstrate that a chemical of concern is necessary and not economically feasible. That's an option that, you know, is always available to a responsible entity not to change their process, but then they need to demonstrate why it's not economically feasible.

And we've got the Abridged AA where there's no functionally acceptable alternative. And essentially, that one is where you roll up the stage one and the first step of the second stage or the economic impact portion and complete your Abridged AA, and it allows you to go straight into research and development.

Then you've got the alternate process AA and that's geared for responsible entities that already have an existing process within -- you know, in their business. And so now all they need to do is provide that document and demonstrate where it meets the requirements of Article 5.

And then the Previously Completed AA, that's a more generic AA where consortiums could collaborate and say conduct for stage AA. And then each responsible entity take what's the findings and say, okay, now I will see how it applies to my particular business, and then amend it and submit the supporting material and then complete their AA. So it's really options to allow responsible entities flexibility in complying with our

requirements.

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SENIOR HAZARDOUS SUBSTANCES ENGINEER MUNIZ: What do the regulations require?

And this is where I mentioned just a bit earlier on -- there's -- it's consistent with most lifecycle assessment tools, in that the first stage requires that you screen the options and identification of those options and then there's a list there. And I won't go into that because I think a lot of you are already familiar with that. And then, of course, when you get to the second page, you summarize those -- the factors that you took into account, and they make a decision, and make -- select your preferred alternative and go with that.

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SENIOR HAZARDOUS SUBSTANCES ENGINEER MUNIZ: And I believe that's it.

CO-CHAIRPERSON FONG: Thank you very much. Are there any clarifying questions for Hortensia on what was presented? Just as a reminder, please limit your interventions to clarifying questions on her presentation. There will be an opportunity to discuss other items following our -- on our discussion this afternoon following a public comment period.

And for the public comment period which follows

the clarifying questions, if you have not done so, please seek out one of the DTSC staff members and ask for a comment card. So clarifying questions. And let's start with Mike.

PANEL MEMBER CARINGELLO: Thank you. This is Mike Caringello. So with the previously performed AAs, just so I'm clear on that, a consortium could come together who have similar product types, perform an AA, submit it to the agency, run that through the entire process, and it wouldn't necessarily directly impact a set product, but then the members of that consortium would come back after that's approved by the agency and just amend that for their specific products, right?

SENIOR HAZARDOUS SUBSTANCES ENGINEER MUNIZ: It could work that way or they submit it independently. Each responsible entity can -- in other words, it won't get approved because -- the whole -- there's the preliminary AA and then there's your final AA. Because the way -- of the way the regulations are written, most of that information that is applicable to a broader group would be -- evaluated during the preliminary AA. So in many respects the previously completed AA will only get you to the stage one.

To do the second stage and complete with all of the requirements, then the responsible entity would have

to take that information and do a deeper dive on what changes they are going to make as a result of the information that was prepared as a consortium.

PANEL MEMBER CARINGELLO: Okay. Thank you.

CO-CHAIRPERSON FONG: Just as a reminder, please speak directly into the microphone please. We're having a little bit trouble picking up some of the speakers.

Next it's Cal.

PANEL MEMBER BAIER-ANDERSON: Cal Baier-Anderson.

Hortensia, can you go back a slide or two, please. Right there -- no, one more. Right here.

Okay. For the 2-stage AA, I guess what I'm wondering, the second bullet point is to demonstrate the COC is necessary and/or not economically feasible. Would it not -- don't you want to add a bullet that says an alternative is -- you know, through the process an alternative that is feasible has been identified, and substitution can be made? Because it could happen.

SENIOR HAZARDOUS SUBSTANCES ENGINEER MUNIZ:

That's a good point and you could -- and we could. We could add another bullet in there and make it more -- give it a more positive spin, yes, agree.

(Laughter.)

CO-CHAIRPERSON FONG: Are there any more questions for Hortensia?

If not, thank you very much.

SENIOR HAZARDOUS SUBSTANCES ENGINEER MUNIZ: Thank you.

CO-CHAIRPERSON FONG: Next, I'm going to ask Relly Briones of DTSC to come up. And Relly is going to provide the Panel members the context for discussion questions regarding the relevant factors and guidance.

Relly.

MR. BRIONES: Okay. Thanks, Art. I'm Relly Briones. And I work with Bob Boughton and a member of the Alternatives Analysis Team.

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MR. BRIONES: So in this presentation, I'll talk about the existing assessment -- Alternatives Assessment frameworks. There are several frameworks that have been developed by government agencies, academia, and some NGOs. And I'll touch on the A through M criteria that have been discussed by Hortensia, and also the -- several factors that had been enumerated in the regulations and make a comparison of these several frameworks on how they addressed our California requirements.

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MR. BRIONES: Here are examples of existing AA frameworks, where California Safer Consumer Products regulations established the framework, as a Bob mentioned,

on are Article 5 of our regulations by listing the several steps required when conducting AA.

But more importantly, we have on the regulations, the factors had been listed in the regulations that need to be considered when evaluating an alternative.

ECHA has this guidance document on the preparation of an application for authorization. There's a section that have this discussion analysis of alternatives. And the Lowell Center of Sustainability developed this AA framework that contains the modules. They have these four modules of evaluation modules.

And there are other several frameworks from government agencies, just like U.S. EPA, the German Federal Environment Agency, and some NGOs. Now, this frameworks, they differ on their level of details. Some only discuss, in general, the steps involved in AA process. While some, they have this very detailed specific guidelines explaining how to conduct this various stages of AA, provide information on what information can be obtained, listing some tools.

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MR. BRIONES: And some of these guidelines are the following: The IC2, which has been recently released. We have again the several guidance documents of ECHA. We have -- from ECHA, we have these chemical safety

assessments, socioeconomic analysis, exposure assessment guidance documents. And U.S. EPA also have this criteria for hazard evaluation.

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MR. BRIONES: This framework also describe and mention several of the tools being using in Alternatives Analysis, some of which are the GreenScreen, which was developed by Clean Production Action for hazard assessment. And the State of Washington Department of Ecology developed CAT, and TURI developed this Pollution prevention option analysis system.

And there are other tools out there appropriate for various stages of the AA, lifecycle impacts, economic analysis, exposure assessment.

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MR. BRIONES: And with these frameworks, guidelines, and tools, we wanted to check how these advice frameworks address our California requirements. And there's a review of these several frameworks done by OECD. OECD established this ad hoc group to advance tools and approaches to support Alternatives Analysis. And this ad hoc group reviewed the existing frameworks.

And although they found commonalities among these frameworks, just like these frameworks address intrinsic properties on hazard, technical performance, they also

found some differences on several attributes.

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MR. BRIONES: This is just a copy of the table on the OECD did a report, and I believe it's part of the background documents sent to the Panel. And basically, OECD compared these frameworks based on several attributes, just like the exposure, cause and availability, lifecycle impacts. Attributes that the California regulations required to address.

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MR. BRIONES: So we used the same approach by OECD. We used the same reviewed frameworks. But instead of their attributes, their criteria, we initially checked, okay, how do these frameworks address the A through M criteria? And from the previous discussion, the A through M criteria is statutory criteria. So please note that when it's green, we say yes, the framework may have addressed this A through M criteria, but not necessarily.

But then it's interesting to note that there are several yellows -- yellow colored fields on these what -- what their conservation and material consumption. So those areas, a number of these frameworks sort of have not addressed these areas, energy efficiency.

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MR. BRIONES: So looking further, we'll check --

instead of A through M, we'd like to check how these frameworks address our Safer Consumer Products regulations factors that are required to be considered for relevancy.

And these factors that's listed on Article 5 includes checking, evaluating adverse environmental impacts, adverse public health impacts. And I think Hortensia mentioned this translation of the A through M criteria to these several factors.

Now each of these factors, because of their definition, fans out to several lists of -- additional list of factors. And I have the same. I just copy Hortensia's slide. So this the same slide as you saw before.

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MR. BRIONES: If we take, as an example, the adverse environmental impact, then it involves addressing air quality, ecological, soil quality, all the way through California toxic air contaminants. And there's a long list of these California toxic air contaminants that needs to be addressed, and checked whether it's increased with these air contaminants.

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MR. BRIONES: So even though -- going back to this initial table here, where we check the several frameworks using the A through M criteria, even though

there's a green color on these attributes, meaning that they may have met or addressed these attribute, take it for example the REACH authorization. REACH has some comprehensive evaluation of the environmental and public health impacts.

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MR. BRIONES: But if we look on our SCP requirements on the adverse environmental impacts, which include addressing soil quality, there's a question of does REACH address soil quality, soil erosion? Is it important? I mean, that's asking if it's important.

Then there's also this question of does it address the air -- does it completely address the air quality impacts that contains the list of California toxic air contaminants?

So there are challenges on addressing and identification of relevant factors in the regulations.

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MR. BRIONES: Now, one more challenge is the sufficiency of available tools. OEHHA, I believe, there are approximately 39 endpoints on OEHHA, which are required to be considered in our regulations. GreenScreen addresses around 18 endpoints. So the question is, is GreenScreen enough for initial evaluation? Can we add additional tools to address the remaining endpoints?

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MR. BRIONES: And this is my last slide to show that we are faced with these challenges, and would appreciate the Panel's advice on having a practical way of identifying the regulations relevant factors and what tools are available.

Thank you.

CO-CHAIRPERSON FONG: Are there any clarifying questions for Relly on what was presented?

Start with Cal.

PANEL MEMBER BAIER-ANDERSON: Cal Baier-Anderson.

Relly, if folks are being asked to make decisions with the data that they have that's available, as opposed to developing data, running additional tests to address A through M criteria -- so if you have to make decisions with the data you have in hand, in a sense, are you putting the cart before the horse worrying about the different frameworks covering or not covering all of the A through M criteria?

For example, very few toxicity tests address ototoxicity. It's just -- in the standard bioassays. So, you know, if you're really worried about a framework having a criteria for ototoxicity, and then you have no data to assess it, then you've kind of perhaps spent time dealing with something.

CO-CHAIRPERSON FONG: Cal, I think that's an excellent point, but I think that fits probably better in the discussion part of our meeting agenda.

Are there any clarifying questions for Relly?

Oh, I'm sorry, Ann. I didn't see you.

PANEL MEMBER BLAKE: Ann Blake. I think this may border on the discussion as well, but I wanted to bring it up.

(Laughter.)

PANEL MEMBER BLAKE: So I'm --

CO-CHAIRPERSON FONG: All right. Knock it off.

(Laughter.)

PANEL MEMBER BLAKE: Too late. I'm a little puzzled. I just wanted to highlight and maybe we can talk about it later in the discussion that you used the UCLA MCDA framework and you called it just a framework. But just a point of clarification, we built that framework on the A through M criteria and fanned it out exactly the way that you and Hortensia have described. So perhaps we can address that later.

MR. BRIONES: Sure.

CO-CHAIRPERSON FONG: Don.

PANEL MEMBER VERSTEEG: You went through all the different AA approaches and which ones of the A through M factors they would cover, but are you writing -- will the

AA guidance -- why -- I guess I'm asking why did you go through that? Will the AA guidance address the A through M factors or will someone writing the alternatives analysis have to pick and choose from each of the different guidances you've referenced.

MR. BRIONES: Absolutely. The reason why we looked at these various several frameworks, that we are also trying to learn these different approaches from these several frameworks. And looking at what is the best or complete framework, but then we still can't have to augment --

PANEL MEMBER VERSTEEG: Good. That's what I thought. Thank you.

CO-CHAIRPERSON FONG: Are there any more questions for Relly?

Seeing none.

I'm going to switch -- turn the meeting over to my colleague Kelly on public comments, and if you have not signed up to comment, you can still do so at this time. One of the DTSC staff members will hand you a comment card.

Kelly.

CO-CHAIRPERSON MORAN: So thank you very much. We'll be taking public comments right now. I've got four requests. If you have a request to speak, please grab one

of those cards and hand it to the staff right away.

Seeing no one else running to do that, I thin k we're going to have four speakers. We have a little less than 15 minutes to do that, so -- this whole thing, so I think you can probably have a generous three minutes to share your thoughts.

But before we begin, I think we need to do just a bit more clarification about what this comment period is about. The purpose of this meeting is for the Panel of experts that are here to advise DTSC on a certain narrow set of questions that have been posed for us. So we're not advising DTSC on the selection of products. We're not doing a scientific review of those things that are in front of us.

The comment period now is after the presentations and to inform the discussion that we're going to be having advising DTSC about alternatives assessments and specifically the format that they might be using for their guidance, how is the guidance going to look and feel and be able to be used by folks, and that really tricky process of relevant factors identification.

And if you want more details on that, it is -- there is information in the agenda. So I do want to emphasize that the goal of making any comments here is only to inform the Panel's discussion, which would then be

taken back under advisement by DTSC.

Comments made here are not intended to be made to DTSC. There's a separate process for that on these things. And so certainly the Panel members will be happy to listen to those and the Panel members will take them under advisement and may or may not reflect what they hear in the public comments in their discussion.

But if you want to comment on the other things, I'm just encouraging not to waste your time and energy in this direction.

So with that --

CO-CHAIRPERSON FONG: Yeah, and another reminder that again this is a working meeting for the Green Ribbon Science Panel. So the Panel will not be able to respond to your comments or answer specific questions that you may have.

CO-CHAIRPERSON MORAN: Okay. And we've got yet another comment. So I'm going to have to take you back down to about two and a half minutes at most on those comments. And I'm really sorry about that.

So with that, the five speakers. We'll start with Will Lorenz, I think, is his name from General Coatings, followed by Randy Fischback from Dow Chemical.

MR. LORENZ: Hello. Thank you again for hearing my comments. I guess my comment is I want to express my

ignorance in understanding how the decision-making process is made. You've identified the criteria for the AAs, but we are unfamiliar as to how then they're vetted and what is the standards that it has to reach, as far as alternative analysis, and whether that's an open process, and whether we can participate in it, and whether it's accountable to the legislature?

Second, the question is relevant to spray polyurethane foam. We don't know who specifically must provide the alternative analysis. Spray polyurethane foam is applied by contractors. They take the two compounds and mix it together and make foam. I supply a system to them. I buy an isocyanate from a major multi-national.

We're a medium-sized company. The contractors are all typically very small companies. I don't think you ask the contractors to do that significant analysis. I don't think they have the resources. I don't. But is it my industry at the mercy of multi-nationals to determine whether or not our product meets this AA requirement?

Thank you.

CO-CHAIRPERSON MORAN: Thank you, Mr. Lorenz. Randy Fischback followed by Xiaonan Wang.

MR. FISCHBACK: Thank you. Randy Fischback with the Dow Chemical Company. And, Kelly, I think I can meet your criteria here for making a comment or asking a

question.

Earlier in the first session, someone on the Green Ribbon Science Panel asked is the AA for the chemical of concern in the priority product or is it for any type of alternative? I think the -- you know, one of the examples was, you know, the baby can always sleep on the ground.

And I used to ask this question, you know, is an alternative for a plastic bottle a, you know, cupping your hands or a plastic bottle or some other means like -- or a glass bottle or something like that?

So I think that's really important to understand what is in the universe of alternatives. And I say that because the DTSC said in its press release that there was no obvious alternative for the do-it-yourselfer spray foam, that one that you can get at Home Depot and lows.

So I would ask if there's no obvious alternative, and that DTSC already says that, then I saw the slide on the Abridged AA and I thought, okay, so that may fall under the category of no functionally acceptable technically feasible alternatives.

And that brings you, as I understand it, straight to an R&D process or exercise. And companies like mine are doing R&D on stuff on this all the time, and we're always trying to find safer, cheaper, more efficacious,

you know, more environmentally sound things.

So I'm a little confused, because I could easily see this being the route taken on a product like some of these spray foams. And so I just would ask the Green Ribbon Science Panel to sort of, you know, tease that out a little further.

Thank you.

CO-CHAIRPERSON MORAN: Thank you, Mr. Fischback.

Xiaonan Wang, followed by Mitch Fine. And I want to apologize in advance if I -- or apologize, if I'm butchering people's names.

MS. WANG: Thank you, everyone. My name is Xiaonan Wang. I'm a Ph.D. candidate at UC davis. I'm advised by Professor Julie Schoenung. I'm sorry that she cannot be here. Her father is in hospital now.

But we did have some discussion before regarding to the AA reports in our research, so I want to talk about what we found in our discussions.

So we have heard all the difficulties in the AA over the trade-offs between being helpful, being feasible and being specific enough. And we read some AA reports and found that there are quite a lot of data gaps there, like in some -- for some analysis -- like it's for economic analysis, the whole line is filled with question mark. So it means all the data is not available for this

specific alternative chemical there.

For us, studying chemistry, chemical engineering maybe it's not that hard to find alternative chemical, but it's really hard sometimes to narrow down the relevant factors to see how the economic analysis can be conducted with respect to this specific chemical.

So for ourselves we were thinking do we need to like make a combination between the morning section, like the priority -- the products categories and the AA assessments to make them together like for a specific category of products. We have these corresponding AAs structured, so we can follow this guidance for these certain kind of products to narrow down the relevant factors, to make some more specific correspondence to these product type, if it's feasible.

Also, for the relevant factors, we can -- like for we can delay several that are irrelevant categories to make this analysis more feasible. So that's just operating the results and we are hoping to do some work in academia. Maybe now that -- we didn't consider too much about regulations. I just feel like it's so important to consider regulations before we conduct the real research, but it's very helpful to get this information.

Thank you.

CO-CHAIRPERSON MORAN: Thank you Ms. Wang. So

Mitch Fine followed by Greg Gorder.

MR. FINE: Thank you. In my prior address, I was somewhat critical. I do want to be a little bit more positive this time in my reference to your analysis of alternatives to SPF systems on page 19 of the priority product profile document. And I applaud the group's -- the staff's work in trying to really pull apart this alternatives analysis.

I came up here before as wearing the hat of an installer of SPF, but now I want to put on my hat. I'm also the founding member of the California Building Performance Contractors Association, which came out of a working group of the California Energy Commission 20 years ago, where we were looking at building science and really trying to look at the homeless systems, and the physics of buildings, and looking at, what Jerry Brown would call, alternative or appropriate technology.

If you take a styrofoam cup and you use it one time and you throw it in a landfill, that's an inappropriate technology, according to our current Governor.

However, if you take SPFs, spray polyurethane foam, and you spray it on a building, and it's a sustainable system for 50 years, again, I applaud that -- this Committee looking at that lifecycle analysis and in

terms of this trade-off, this balance.

One of the things is that in looking at this alternatives, we see, for example, as one of the alternatives -- and again, I applaud the way it's been broken down -- they say fiberglass. When we as -- when we went into the field as HERS raters, and we looked at how fiberglass was actually performing in the wall versus how it was performing in the box. It said R-19 on the box. When we actually modeled, it looked a thermal shorts, we saw that we weren't seeing R-19.

So again, I would just, you know, focus the alternative analysis on really looking at when you say an alternative, is it really doing what you say it's going to do. Also, since this document came out, I have been very actively talking to the major manufacturers of isocyanates Bayer, BASF, Dow, Huntsman and talking about NIPUs, non-isocyanate polyurethane foams, and really trying to figure out is there alternatives, because as someone who is extremely ecologically conscious, environmentally aware, and that's why I do the business that I do, I don't want to be involved with a product that's frankly poisoning people. And my consumers and customers are calling and say, you know, Mitch, I thought you were the green guy. What's going on?

So if -- so in that sense, I think it's great

that we're doing this alternative analysis. We're saying to the manufacturers, if there is an alternative, let's put it out there. Let's work with it. Let's force that to happen. But right now, and believe me if it were there, I would use it. These NIPUs are not commercially viable.

So I just, again, like the direction this is going. And I like -- so I think I look forward to being part of this alternative analysis process. And I thank you for your work on this section.

Thank you.

CO-CHAIRPERSON MORAN: Thank you, Mr. Fine.

Greg Gorder.

DR. GORDER: Yes. Greg Gorder with Technology Sciences Group, a consulting firm.

My desire to comment was based on the same thing that the Dow gentleman noticed on this slide, that, okay, so if you have an abridged alternative analysis, you go straight to R&D, and I don't quite get that. I mean so what I -- what seems to me is that if you had an idea that was -- or thought you were on the verge of having an idea that would substitute, you might be better off withdrawing the product, doing your R&D, introducing the new product that complies, why go through this elaborate public process that costs a lot of money, a lot of submissions,

and a similar sort of thing with the public -- resubmission of a document.

So if you were an innovative company that had a great idea, why make it public? Why not -- you know, why go through this process when your competitor is going to take your alternatives analysis and submit it again with your formulation? And so I think there are -- I mean, from my point of view, there's a lot of incentive for companies to not go through the AA process. And I'm probably missing something, but anyway it's a thought for comment.

CO-CHAIRPERSON MORAN: Thank you, Mr. Gorder.

Are there any additional requests to speak?

Okay. Seeing none, I'm going to close the public comment period. And I want to note that most of the comments here were questions about the process, and remind you that this wasn't the setting for answering those questions, so we're not actually able to divert the meeting in answering those questions today.

But Meredith Williams here will be able to explain how to get those questions answered.

DEPUTY DIRECTOR WILLIAMS: So I don't know if you have easily accessible the reminder slide about the dates on the workshop, but these are exactly the kinds of questions that we want to have on the table during the

workshop to be able to dig into them more deeply. We're hoping that we have a large number of key stakeholders, such as the commenters today at those workshops to give us a fuller perspective on these products.

CO-CHAIRPERSON FONG: Thank you. Good. We're finally getting to the fun part of the afternoon, alternatives analysis.

First of all, Bob Hortensia and Relly, thank you very much for your excellent presentations. That really set the stage for our discussion this afternoon. And the first of the alternative analysis discussions will be on the guidance format. The discussion questions were a part of your packet, and I know you've already gone through those.

So again, our method for making comments is again raise -- putting your name tag up. And so let's get started.

Just for clarification, let me go through the questions that DTSC it's seeking your advice on. The first one is on the format for offering guidance about consideration of the exposure at each lifecycle stage. The second question is effective methods for offering guidance about relevant factor selection. And the third question is the type of tools that would be included in a toolkit to supplement the guidance document.

And I see Meg has her flag up first.

Meg.

PANEL MEMBER SCHWARZMAN: Thanks. Meg Schwarzman. These are two comments that are meant to be about format, but they're fairly general about the alternatives assessment guidance, and they're brief, I think.

One comes -- my first comment comes out of research that I supervised from a doctoral student who surveyed companies, small and medium size enterprises in Europe, who were responding to REACH. And that extent of the ignorance among the regulated population was astounding to me.

So this was well into REACH's implementation. And, you know, large companies that were well represented by trade associations were aware that REACH applied to them. Small and medium sized enterprises didn't even know that REACH applied to them, even though it applies to all chemicals produced or imported into Europe.

So I think I'm glad to hear that DTSC's conversation about the need to educate small and medium sized enterprises, and I think -- I just wanted to underscore that, because I was really surprised by the outcome of this research at how much it takes, because it's such a diversified, you know, spread out, not tapped

into a central sort of educational source.

So I don't have a way to solve the problem, but I wanted to underscore the need for that, because of what we saw play out in Europe. And the second is just a lesson that I've gotten from my ninth grader's english teacher, which is these amazing grading rubrics that she creates. And I was having this vision of the alternatives assessment guidance as looking something like that of like here's what we expect, a well completed alternatives assessment addresses these issues.

It, you know, makes the trade-offs clear, and the reasoning behind the trade-offs clear, and with some language about. So that for each section, there's a here's what a well done AA does, so that it's like when you put in a grant application you have all the things that you're suppose to do in the grant application, and then you have this next section that says, here's how this will be scored.

And I think that's -- if I were writing this alternatives assessment guidance, that's the kind of document that I would be sort of holding up in my mind is providing the kind a score sheet that people can put next to their AA as they make it, and say are we meeting these criteria?

I'll show you the grading rubric, if it would be

helpful.

CO-CHAIRPERSON FONG: Ken Geiser.

PANEL MEMBER GEISER: Actually, go ahead with them.

CO-CHAIRPERSON FONG: Okay. Tim.

PANEL MEMBER MALLOY: First, I had a question just to make sure I understood what we were doing. So we should address format, and so I have a comment about format, and then I have one that's I think more substantive. But I don't understand, so is the format thing is that the first thing you read about exposure or is that some -- is this like a general format thing and then we're going to get into the substance of other things?

CO-CHAIRPERSON FONG: The first one would be format for the guidance, yes.

PANEL MEMBER MALLOY: Okay. So I have a question, I guess, comment on that, which is, Bob -- first of all, thank you for the presentations. I thought they were great. And, you know, sometimes when you make comments that are meant to be constructive criticism, they don't reflect the fact that there's not a lot of appreciation for the hard work. You know, you're on the cutting edge here, so all that please take that.

But one thing Bob said is he wanted the guidance

to be a living document, which I think makes a lot of sense. So here's a format idea or question. For a lot of regulatory programs in the tax area, environmental area, and otherwise, regulated or responsible entities, you know, they have guidance documents, but also there's a kind of an informal process by which regulated entities send in a question and the agency will respond to that question. And then that's publicly available. So like for the tax code, you get private letter rulings, and you can go look at those and people can learn from it, right?

For under the Clean Air Act, people can ask questions. Am I covered by the new source performance standard? There's a letter that comes back and says, look, we looked at your -- they're not enforceable. They're not generally applicable, so I think those kinds of responses probably wouldn't be underground regulations, but who knows. You know, I'm not trying to make a legal judgment about that. Obviously, you'd think about that.

But I think that's really a way to take this notion of a living document and make it real, because that is kind of responding to things as they come up, and then by making them available, it allows the whole community to kind of learn what's happening. So that's a format suggestion that I have for you to think about in terms of your document.

CO-CHAIRPERSON FONG: Thank you very much, Tim.

Ken.

PANEL MEMBER GEISER: Yeah. Thank you, Bob.

Some of the -- a little bit of what I'm going to say, I've already said to Bob in different ways. But we set out to do guidance early on with the TUR Program, and I think we learned about trying to think about how you develop a guidance about a process in which the conventional consciousness about how you behaved around that was a compliance orientation.

So what we face with the TUR program many years ago was people who thought of environmental factors as being something you were in compliance with, or out of compliance. And what you wanted to know from the government, or whatever, was what do I have to do to be in compliance? That's all I really want to do.

And I think that, you know, the trick of doing good guidance is to liberate people's minds from that orientation, and open up a way of thinking about what are the real opportunities for change. And, you know, I think that's -- depending on the -- depending on where a company is in regards to its market share, and other such things, that is easy -- is either easy or quite difficult, and one needs to respect that.

So I think one thing that's important is to ask

what -- who's the audience for this guidance? Who are we trying to reach with the guidance? Are we trying to reach the assessors who are presumably sort of sophisticated people who, you know, initially I think we thought they would have gone through some training. Now, I think we're not assuming they're going to be trained. They're just going to be assessors, or is it really the small and medium sized production manager or the marketing specialist for the company or whatever?

I think it would be useful for us, as we launch off onto the guidance document, to check with the communities, to some degree, and find out who is likely to use this, because that's going to shape the way we think about the guidance, a lot and so I would urge some kind of little survey or some kind of way to figure out who is going to be reading these things.

A second thing is I know you know in the pace of the program, the idea of checking the alternative assessment that's come in to make sure they're actually meeting the standards that are set out in the regs is a ways down the line, but I fear, and I'm concerned a bit, if we don't think about how we're going to be responding to people who turn in their alternatives assessment in order to think about what we need to tell them beforehand about what -- how to do a good assessment.

In other words, I wouldn't reserve -- I know everybody is doing very good work, and there's a lot of work on the table. But it is important to think about how are these going to be evaluated, because we don't want to be in a position where we're rejecting some alternatives assessments on the grounds that we never told people we were actually going to be assessing them, and people going back to the guidance and saying, you never even raised those issues in this guidance. That would be very, very discomforting I think to people.

So I urge that we spend some time during the writing of the guidance also thinking about how we're going to actually be assessing the guidance -- or assessing the alternatives assessments later.

There's some other things, but I guess -- let me just check it -- okay. The last one has to do with actually a new thing. And Ann mentioned this earlier, and there's a lot of us who are beginning more and more to think there's an orientation in alternatives assessment that has to do not with just finding an alternative chemical, of focusing on the chemical and thinking about what the alternatives are to it, but focusing on the function, on the purpose that the substance is playing out in the process, and to begin to think about the characteristics of that function: What's the purpose, how

is that chemical used, what is -- how much of it's used, and all -- and beginning to think about the function that it performs as a way to guide the search for alternatives assessment.

And I'm hoping our guidance document we'd spend some time on function -- on thinking about function, how we defined function, how you think about function, and how you get people to get excited about, hey, I've got a function. I need to do an insulation of a wall or something like that, how can I do that? Not simply, can I find another chemical, but can I do it in a different way that advances my business, but also gets me out of a particular chemical of concern?

So I invite us to think about, in our -- in this guidance document giving people some of the most recent thinking about functional use. So those are some of my thoughts.

CO-CHAIRPERSON FONG: Helen.

PANEL MEMBER HOLDER: I wanted to follow-up on what Meg had said about rubrics. I think that that would be very helpful in the format, and that the twin to that or the companion to that would be examples. I cannot stress that enough, as a user, as a future user of the guidance is to have an example of what is considered sufficient or what is an acceptable whatever section in

it, so -- from format perspective.

CO-CHAIRPERSON FONG: Ann.

PANEL MEMBER BLAKE: It's always my honor and fate to follow either the very articulate Tim Malloy or the very eloquently and articulate Ken Geiser, who's already touched on the point that I've made. But thank you, I will just emphasize it again.

So one of the things that came up a little earlier today and -- is I'm really struggling with is, as Ken has articulated, how you can provide a guidance when you don't really know what your evaluation criteria are going to be. You're stuck in this chicken/egg thing.

And so I would strongly emphasize that you start setting as -- you know, echoing of Meg's comment as an educator setting learning goals, what is it that you're trying to achieve? What is the overarching goal that we're trying to achieve with these alternative assessments?

And I think that sort of leads into -- and then you can start framing this as a series of questions in the guidance. So one of the -- and to model, providing examples, we're working on with BizNGO and Clean Production Action, the plastic score card. And the way that we're dealing with these big massive comprehensive lifecycle questions is to say, you know, what is it that

we're trying to achieve? Of the various options that you have say for feed stocks, what are the options that you can do with a biobased feed stock, versus a petroleum based feed stock, and just to scope out those questions a little bit. I think that will help narrow down exposure issues.

And I think, again, to emphasize the comment we made this morning, there's only so far you can go with this on a general AA guidance. You're going to have to do some product specific guidance as well to make that clear, which we're seeing from the plastics, and even within the plastic score cards, it's obviously -- once again, to quote Ken, it's complex when you start going from a chemical to a material.

And then I think I had a question for -- okay, so a long those lines of your evaluation criteria, I think there are some places where, yes, you're looking at the A through M criteria and those were not weighted within the regulations, but I think there's an inherent weighting that comes from you being a public agency whose mission is to protect public health and the environment.

We may take that for granted, but I think it's worth making explicit your evaluation criteria and maybe those learning goals, your overarching goals that you're trying to achieve to make that explicit that you are

trying to make a better outcome for public health and the environment. And that's a weighting that is appropriate to put in to your guidance.

And I think I have a question that may go off into an offline discussion. I'm curious about you're asking us for what additional tools you want? And I think I'm not really clear yet on what you see the gaps are in the existing tools. I get the sense that they don't match up with the A through M criteria, but I think I'd like to go into a little more depth as to what you're looking for in terms of additional tools that you think you want to provide as part of the AA guidance. So perhaps I can have the discussion with Bob or Relly later.

CO-CHAIRPERSON FONG: Kelly.

CO-CHAIRPERSON MORAN: Thank you, Art.

I'm glad to jump in here, particularly after Ann's comment, because right on my list is that. So I'm going to broaden the discussion from just format, and as Ann was already doing, jump into the tools, questions, and methods questions. And I just have three main points, so hopefully I won't overtalk as Tim teases me.

(Laughter.)

CO-CHAIRPERSON MORAN: So the first is in terms of the format for the guidance. I think that it's really going to be important for the Department to have a layer

or section or something that is for smaller and medium businesses, that is not about how to do it, but how to get the expert in to do it. So how do you find the right assessor? And really, you're probably looking for a team of people with skills, just helping them understand that what might be the way they would write the scope of work, what skill set or qualifications are they looking for?

And my example for this is that we're seeing in water quality monitoring programs as we're getting into monitoring requirements and smaller and smaller organizations both in the industrial field and in government, there are getting to be requirements to do very high quality water quality monitoring.

And large organizations would take that on themselves, and they would have the expertise to write specifications to hire a competent lab, and get the sampling done in a capable way and so forth. The State started with, well, okay, we'll come up with QA standards. So the Water Board came up with these really extensive QA standards for monitoring.

Well, now, we're getting smaller folks having to do it. And they look at those QA standards and it might as well be Greek. And they don't have any idea how to write a scope of work and select a contractor that's capable of meeting the QA standards.

So in many ways, the guidance -- the more technical guidance is kind of like the analog, although not the same thing as the QA standards. And I'm suggesting that DTSC do what the stormwater world is actually about to do, which is to try to embark on offering some guidance to smaller entities about how to write those purchasing specifications. So that's thought number one.

Thought number two is on existing tools. And the staff have heard me complain about this, and some of you have too, so I think I better get it out in the broader arena. As one of the members here who works extensively in the environmental toxicity field, I've found that the existing tools are sorely lacking in this area. And it is my assessment based on my experience with other chemicals, particularly with pesticides that a set of tools and decision making frameworks that focus on humans -- which I can understand why we do that. We're human. But if we do that, we will create pollution in the environment, in that we do not want to then subsequently have to come back and do another round on.

Many of you know my brake pad example. We start with this asbestos, we go into lead, then we go into copper. We're moving from human health impacts to water pollution, and now they're having to do yet another

expensive reformulation of their products.

Similarly, with pesticides, the EPA had a recent round of review called reregistration. And they focused their decision-making criteria on human health impacts. The new generations of pesticides are causing widespread water pollution problems. So we're seeing all kinds of aquatic toxicity. And there's concerns about impacts on bees.

There's other kinds of environmental endpoints that are wildlife harm bird problems. We're seeing a bunch of other things happening in this area. And it's because of the not complete consideration of these things.

So I have some ideas about how to bring that out, and we can talk about that later on. But my sense is that the Department is correct in its process of things like this sheet and identifying that there are gaps.

And, for me, that's one example that says that we're looking either at new tools or at least first saying you can use this tool, but you need to do these other things to get there.

So my third thought is -- kind of circles back around to product specific guidance. A lot of this stuff that we're talking about here, ideas about functional use and use patterns and so forth, it just seems to me that the Department is going to need to help people a little

bit, see what it is that they're going to need to specifically be thinking about.

And my example for that is something I call use pattern, which is kind of the complement to functional use. Functional use being how a chemical -- what function does it provide in the product?

The use pattern is something that is how is the product used? A use pattern in my definition actually includes a piece for each lifecycle stage. So I'm using the word use pattern kind of generically, and you think of it is as use.

But there's products you can group them in terms of how they're used. And that gives you a mental picture of what the exposure pathways are, and starts giving you a mental picture of which of the relevant factors, which considerations require the most explanation -- or exploration. That's the right word. And we'll come back to this later this afternoon, too. But that's something in particular I think would be useful in a product-specific guidance.

And thank you.

CO-CHAIRPERSON FONG: Thank you, Kelly.

I have on my list next Becky, Mike, Bill, and Cal. So let's start with Becky.

PANEL MEMBER SUTTON: This is a very specific

tool suggestion. An accompaniment, for an example AA, would be someone walking through and pointing you specifically why it's such a good document. And you could do this during one of the workshops and then make it an online presentation so anyone can access it.

CO-CHAIRPERSON FONG: I'm sorry for interrupting. Would you mind speaking directly into the mic, please.

PANEL MEMBER SUTTON: I'm not close enough. Oh, there we go. Should I repeat?

CO-CHAIRPERSON FONG: Yes.

PANEL MEMBER SUTTON: All right. So an accompaniment to the example AA would be someone walking through that document and pointing out why it's so good. And this could be done at one of the workshops and then put into an online format, so anyone can check it out.

CO-CHAIRPERSON FONG: Thank you, Becky.

Mike.

PANEL MEMBER CARINGELLO: Mike Caringello. And I'm just going to go back to the format issue. I think in what I was hearing from Bob is part of the problem with doing a format is you've got large, medium, small companies that you're trying to give everyone some guidance. And how do you do that in generic fashion? I think we've got to focus on doing that in a multi-layered fashion where you've got some generic, you know, high

level guidance that's going to fit the large companies that have their own methodology. That it's perfectly acceptable, and they can submit an AA using their own methodologies, but still fit in the guidance. But then you've got to go interactive for those medium and smaller companies for those contractors that are out there that have none of this capability and give them an interactive functionality in that guidance document. And it might be because the agency does not have a ton of people sitting here to go over every single one of these with every single person.

Maybe it becomes a list of here are the people that would have been accredited bodies who can help you do this, so that they have a resource they can go to that's not necessarily just in the Department, because the staffing isn't going to grow. They're not going to have a ton of -- you know, we're not going to clone Bob and have him available to meet with 20 different people a day to handle this.

So I think you've got to go interactive, and you've got to give them outside resources that are people that they can afford to go to and get a clear answer from.

CO-CHAIRPERSON FONG: Thank you. Bill, can you hear us on the phone?

PANEL MEMBER CARROLL: Yes, I am. Thanks, Art.

And I've been listening to the discussion. There are a number of things that -- comments that other people have made that have sort of inspired in me.

First of all, I like the idea of guidance not necessarily as a document, but as sort of a living FAQ kind of document. And if it's possible to do that, I think the idea of collecting questions as you go and putting the answers on the web and making them available for people to find and consult is a good one. And I think, you know, only reasonable if that falls within the regulatory area -- within the bounds of the regulatory area.

I wanted to kind of takeoff from something that Ken had to say about the compliance mindset versus opening your mind to the possibilities of doing things differently. And what it really points out to me is when you're starting a new process like this, from the perspective of the regulated group, it's very difficult to trust the process, because you don't know how it's going to come out, and you've lived in a compliance world.

And I think one of the major concerns is going to be I'm going to go through this and then there's going to be some gotcha at the end, where somehow I didn't do this right and I have to go back and do it all over again or a similar kind of mistrust in the way that remedies would be

applied. And I think you could all think of a number of different ways in which the word trust comes into it.

So whatever you do, it kind of has to -- I think it has to work at making people understand that this is a process that can be trusted, that will not be arbitrary, and that, in the end, you know, maybe Meg's scoring rubric is appropriate. You know kind of how it's going to end up.

I like the example -- the thought of some examples to use, I realize you can't hit every possibility. But that kind of leads you to this thought, and that is if you kind of begin with the end in mind, what you might do would be to say, you know, we haven't fixed on these priority products yet, but we've had a lot of time to think about these, and we know why they're unique products. And in our minds we've probably -- I'm saying this from a DTSC perspective -- we've probably gamed through what some of the AAs might look like and where some of the problematic areas would be.

I would suggest that you go right for them, and that you think about where the tough parts of this will be for each of those priorities products, and start thinking about how you would offer guidance to people who are going to come to exactly those same kinds of thoughts about problems, particularly since you've already been through

and done the analysis and found gaps in the existing methodologies, which means that people are going to have to kind of create new. And it looks like it's going to be very difficult to go to an off-the-shelf tool, plug in the numbers, stir gently, and get the answer out the back.

So I -- once again, I can't look at your faces to see your eyes roll to know where -- how far off I was on this, but I appreciate the opportunity to make the intervention.

CO-CHAIRPERSON FONG: Bill, thank you very much for your comment, and we appreciate you making the extra effort to join us by telephone.

Before going to Cal, Meredith, would like to make a comment.

DEPUTY DIRECTOR WILLIAMS: I love that you let me just jump in the middle of the queue for no apparent reason.

(Laughter.)

CO-CHAIRPERSON FONG: Corey told me I had to.

(Laughter.)

DEPUTY DIRECTOR WILLIAMS: No, I just -- we have not had time to dig into the role of technology in the program. And I think that a lot of the ideas that are being generated here are very amenable to online solutions. You can have eBooks, where you put the content

up. It's navigable. It lets you dig deeper. It lets you get to the layers of understanding. You know, it's a web thing, right, which is somebody has very little understanding, then gets somewhere, they can dig deeper. It's very compatible with that. And I think we should work hard. I think, number one --

(Thereupon a phone rang.)

(Laughter.)

DEPUTY DIRECTOR WILLIAMS: Number one, we have a strong technology team already working on the program. And I think if we look at other ways to leverage that expertise, we may be able to address some of the ideas that are coming up here.

CO-CHAIRPERSON FONG: Thank you.

Cal.

PANEL MEMBER BAIER-ANDERSON: Cal Baier-Anderson.

If I may, I'd like to go back to the comments, which I raised earlier, which has to do with the tools that are available and kind of the range of the factors or endpoints that they cover.

And I'll rephrase it a little bit and start out by giving -- presenting the experience that Design for the Environment had. In order to be able to evaluate and compare chemicals vis-à-vis a given set of endpoints, you have to have some data, or some ability to conduct -- like

a -- perform an estimation model or someway of kind of quantifying in order to compare.

And what we found is that, you know, we're generally -- as everyone knows, we're dealing in a relatively data poor environment. And so it's tough if you're trying to evaluate chemicals for respiratory sensitization. For example, when we don't even have kind of a standard model to run to test for respiratory sensitization, for example.

In the eco realm, it's particularly notable. It would be great to have criteria, for example, for comparing impacts on avian species or wildlife. But when you have no data to populate it or no model to estimate it, it's -- you know, it's tough. It becomes really tough.

So I think, you know, again rather than worrying about -- you could always -- if you have data, you can do that comparison. So even if the DfE criteria don't incorporate specific criteria to compare avian toxicity, if you have data, you can compare it. But chances are you're not going to have data, not for all the chemicals you're interested in comparing particularly.

So I guess I wanted to put out there that we can make -- we can compare the data that we do have in hand, and then put a marker out for the data we'd like to have,

in order to build out our comparison. But that's a different question. You know, we make decisions based on the data that we have in hand, because we have to make those decisions today. And we can't wait five years to develop that data, but you don't want to lose sight of the data needs.

CO-CHAIRPERSON FONG: Julia.

PANEL MEMBER QUINT: Julia Quint.

I'm sure everybody understands this, and certainly DTSC, but, you know, I think it's really important for DTSC to have a really firm, as firm as possible, idea of what AA -- you know, what results they're looking for, because you can't evaluate it unless you have something in mind.

And I think getting some level of clarity about whether it's minimum requirements for a AA that will cut mustard or something like that. I think it's very important for the Department to have something in mind, so that -- because it's hard to provide guidance, and it's hard to assess something, if you don't start with some clarity about what it is you need.

So I think that's important, and not you'll know it when you see it, because that's very frustrating to people. And I also think that it's important to keep in mind that this comes in the midst -- and I'm sure

everybody is aware of this -- of a lot of regulatory compliance issues that people have to -- that businesses have to deal with.

So to the extent possible is to look at what requirements there are already in terms of air quality or water, or -- I know for health, you know, there are existing criteria. I mentioned GHS is now incorporated into HazCom. So to try to make use of what is already out there that could be used for alternatives in a - I know it's data poor and all of that, but, you know, it's important to integrate as much as possible, because everything is very piecemeal. It already is.

I mean, the agent -- you know, everybody has requirements, but they don't all talk to each other and they don't, you know, keep that in mind as regulations are being promulgated. So I think it's very important to -- now that we have this new regulation to just keep in mind everything else that's out there and to try to integrate within that, and to have -- and I think going through some of the priority products right now in coming up with some sort of baseline of what would be the minimum requirements for an AA for some of these would be an interesting exercise.

I mean, we've done this in occupational health just taking an existing regulation and implementing it in

the Branch, it was a very difficult. So I think it's -- you know, it's always good to kind of step in the shoes of those who have to respond to regulations to the extent that you can, and to -- you know, as I said, before you see it know what it will look like in terms of what you want.

CO-CHAIRPERSON FONG: Don. Actually -- we're going to go through first round for people that have not made comments before going to the second round.

PANEL MEMBER VERSTEEG: I'm struck that this is almost an intractable problem. You don't know what the chemicals are. You don't know how many chemicals they're going to be. You don't know what the context is. You don't know whether the air, water, soil is going to be exposed to any of them, but you've got to write guidance that kind of embraces all of it.

You don't know how much data you're going to have, which tools are appropriate, you know, which receptors are in play, but you've got to write some guidance that's appropriate for it.

And I think if you'd simplify it -- and I heard in the presentation that you can't simplify, that all the A through M are, you know, sacrosanct and considered equal, but at some level you have to simplify. You know, the first question is did you resolve the issue that -- at

hand. So on one of the examples before us, it was asthma. So are there -- is the new chemical, assuming there's a new chemical, is it an asthmagen? You know, is it acutely toxic? Is it chronically toxic? Is it a reproductive toxicant? Or have we -- is this new chemical nontoxic or significantly much less toxic in all the QSARs and tools and other things we can throw at it, recognizing we're going into Tox21. We're entering the new century, and, you know, this is a today problem. In three years, four years, five years from now, I hope it's going to be simpler.

You know, then there are other questions. Have we addressed environmental toxicity? Is this new material environmentally toxic? Is it biodegradable? Does it photolyze? Does it get into the air, water, or soil? And in that compartment it gets to, does it disappear real quickly or does it stick around for a long time? And if it sticks around for a long time, what tox data do I have?

And then -- you know, now you get to kind of the intangibles. Well, what if this new chemical gives you ten times the greenhouse gasses that the old chemical did, but it's less toxic and it's completely biodegradable?

I don't know how to value that, but you've got to somehow come up with a system for valuing that. And I don't know if you want to write guidance for it or -- I

don't know how you do that.

But the types of things you're thinking about doing are the types of things that are done all the time in coming up with new products, new chemicals, and yes, this been mistakes made. I'm not saying no mistakes have ever been made, but hopefully we're getting a lot smarter about this type of thing, and we're thinking through all of the criteria in going forward.

And I think it's you'll know it when you get it. You'll know what a good AA is when you see it. And there are questions that are going to be important, and others that just aren't going to be important, when you get it.

So something that is completely perfectly water soluble and biodegrades rapidly don't have to answer the bioconcentration question. If it never gets in the atmosphere, you don't have to answer the atmosphere question. You know, they're simplifying things that you can do that is going to make the process much quick and simpler area.

Thank you.

CO-CHAIRPERSON FONG: Thank you.

Anyone else for the first round?

If not, let me then just make a short comment. And my comment is actually related to Ken Geiser's point about, you know, pushing beyond minimal -- minimum

compliance requirements and pushing -- driving towards innovative solutions. And I think that's just a grand idea, but we also have to look at the reality. For some of the regulated community, in fact, what they're looking at is how do I submit an alternatives analysis that's going to get a sign-off from the Department. And in that situation, I think what we need is, you know, kind of along the lines what Julia was saying, minimum requirements.

But actually beyond that, it's for DTSC to actually tell the regulated entity what a successful -- what would success look like for an alternatives analysis? What would it look like?

Great. Actually, we have time for a second round of comments. So let's tart with Helen.

PANEL MEMBER HOLDER: I was very happy to hear many of the panelists raising a lot of the similar types of questions, once we opened up past factors. But I think the number one concern for me right now is substantiation of a decision to include or not include something as a relevant factor.

So I completely agree with what Don is saying. And my question then becomes, how do you turn that into something that's compliant? So how do I take that idea -- what level of analysis do I need to do on these 86 factors

to say yes or no?

So there are 86. And I want to use the GreenScreen. Okay. Let's just say that that's what I -- that's my plan. So what do I do with the other factors in terms of justifying not looking at them?

So I'll tell you what we did in the pilot, but I'm not sure that that's right. So what we did in the pilot was we said a lot of really smart people have already thought about what factors to look at, and we're going to not replicate their work, and we're going to take that as a positive selection out of those factors.

But, you know, some people raise some concerns that maybe that wasn't going to be compliant, because we didn't actually look at every single one of the other factors, and then say, okay, well, we did this search, or we read this paper. So I think that that might be something for the parking lot or for a subteam of this group to try to answer that question of what level of documentation or -- I mean, do you really need to go through each one of these factors on here and say I did this search, or I talked to that person, or can you just say professional judgment, because that was one we had often? Does that count? Can you say professional judgment?

CO-CHAIRPERSON FONG: Excellent points, Helen. I

think that's going to lead really nicely into our discussion on relevant factors this afternoon.

Tim.

PANEL MEMBER MALLOY: I don't know if this is a second round comment on the first category or first comment on the second category.

(Laughter.)

PANEL MEMBER MALLOY: I'm actually confused what category we're in, because it seems like we were kind of just being a little -- we're talking about what we were talking about. So can I just talk about it and we'll just pretend it's one of those?

(Laughter.)

CO-CHAIRPERSON FONG: Well, yes, but I'm going to give Kelly the authority to cut you off at any time she wants.

PANEL MEMBER MALLOY: Who's going to cut me off?

CO-CHAIRPERSON FONG: Kelly.

PANEL MEMBER MALLOY: Oh, yeah, sure. That would be fine.

(Laughter.)

PANEL MEMBER MALLOY: Okay. So I've been listening a lot, and I have like three very concise comments.

One is I agree with what Don was saying in that

nice description of look, you know, it may be -- in a sense what I got from you is maybe it's not as hard as we're making it, because here is a whole series of decisions. I think that's exactly right, and I think what Helen said is exactly right. And, in fact, it's not even as if we haven't been doing these things forever.

So, for example, Helen's comments got me thinking about when people were scoping a risk assessment and deciding which endpoints you're going to look at in the risk assessment, right?

And in my mind, I feel she's right -- and I think the regs actually reflect an openness to this idea, that the first thing you do is you figure out which ones are relevant and you describe how you got there. And I think where the guidance could help would be to give some examples of things that would be useful descriptions.

In my mind, it wouldn't be enough just to say professional judgment. I don't think that's what you really meant, but it would maybe be enough to describe how you reached that decision without, you know, listing every competing study that was out there, so on and so forth. So I think the guidance could help there.

But let me say something. I've heard a lot of talk -- like, the different -- I think you should be thinking about the difference between standards and

examples. So, for example, a few people have been saying the guidance ought to identify baseline sufficiency. Here's what would be enough, at a minimum. To me, that seems to be as much of an underground regulation problem as identifying weights for the different factor.

In fact, I think it's probably a harder one, because saying what will be okay is kind of the inverse of that is saying what would not be okay. So, to me, that seems like you're -- you know, you're implementing the regulations. I'll have more to say about that in a second.

Examples seem like a really kind of story-telling narrative way of getting the same point across without drawing strict lines about this is sufficient or not sufficient, but maybe that's just playing around the -- playing games with the notion.

But here's my main point. And it goes back to this question about whether the A through M criteria, are they weighted, are they unweighted, who makes that decision, which came up before. And here's how I think about it.

Okay. It seems to me it's clear that the responsible party needs to think about how important these things are, look at how the alternatives perform on each of those, and then make those trade-offs. I mean, you

know, once you get past which ones are relevant factors, to me, it's clear the regs require the responsible party to do that, and to explain that. I don't -- you know, so giving examples of how you might do that would be a useful purpose of a guidance.

But then there's the question about what does the Agency do when they get it? And this goes back to this question of should the guidance be a fair warning of what the agency thinks will be good trade offs. And from a process standpoint to me I think the answer to that is pretty obvious. Well, sure yeah, because you don't want to run into Bill Carroll's Gotcha situation, right?

So, to me, it seems like there's three ways that perhaps you could deal with trade-offs substantively, because I think what the guidance reflects depends on -- so one thing I -- you know, is that there's no Agency decision regarding trade-offs, that they just kind of accept what comes in the guidance -- in the AA and just ask did it -- you know, do we check off all the boxes, right?

The second is a kind of a case-by-case development. So an AA comes in, the Agency looks at the weighting and the trade-offs and then says, "No, we don't like those, because we would have done it this way". So you've got a case-by-case setting. It's not an

underground regulation at that point because there's going to be a regulation, right, for that regulatory decision.

And that will accrete over time, so what you'll get is policy formulation, kind of like the common law approach, case by case. And staff and responsible parties will start to understand where the agency is going.

Okay. And then the last one would be to kind of try to think in advance, here's what we think are kind of the obvious trades-offs. You know, how important is carcinogenicity as compared to respiratory sensitivity, economic impact versus global climate change? Are there some things we can say up front that we think are going to guide that decision.

Real quickly. I'm almost done, but real quickly. The first one, no agency decision regarding trade-offs. That, to me, is unimaginable. First of all, because the statute and the regs say you have to make a decision about is it necessary to protect health and the environment. So embedded in that is you have to make trade-offs. So the first one I think is unimaginable.

The second one, case by case, not very efficient, and kind of gotcha problem.

The third one, I think is kind of -- is efficient as long as it's flexible and grows over time and is iterative. You get rid of the gotcha problem, but then

you run into this you'd have to tell people up front what you're really thinking. There could be a lot of controversy. There could be a lot of back and forth, complaining, difficulty. Welcome to democracy, right?

I mean, the point of having those conversations is advancing our mutual views and hearing what people have to say, but somebody has got to make a call at the end. And I think the Agency has to make the call at the end.

But the other big problem is the underground regulation problem, right? That's the real one. And I think the answer to that is so make it a regulation. Look, the guide -- this is a possibility. The guidance -- you're going to have workshops. You're going to probably have a draft guidance. People are going to make comments. You're going to then have a final regulation -- a final guidance document. Functionally, it looks like you're already close to meeting the requirements of the APA. Maybe there's a few other things that you have to do.

So my point would be is if the underground regulation thing is the problem, that's an administrative procedure one. Obviously, it's political and time and all those things too, but it's mainly procedural. And it's designed for a certain purpose, which is to make sure everybody got a chance to say what they think, and if you're implementing a reg, there's certain protections.

It seems to me that you ought to just make it a regulation and that way you can address sufficiency and weighting and so on and so forth in a process that was designed actually to deal with this -- these kinds of concerns about openness, transparency so on and so forth.

Thank you for your patience and thank you for the time to kind of add those thoughts.

CO-CHAIRPERSON FONG: We were keeping really close track of time, Tim, so you just made it.

(Laughter.)

CO-CHAIRPERSON FONG: Its 3:00 o'clock, so we're going to take a 15-minute break. And another reminder of the Bagley-Keene requirements. And we'll come back at about 3:15 for a discussion on the relevant factor identification.

(Off record: 3:02 PM)

(Thereupon a recess was taken.)

(On record: 3:19 PM)

CO-CHAIRPERSON MORAN: Wow, it was than 30 seconds. You guys are good. Thank you.

So I'm reconvening the meeting of the Science Panel, and continuing the AA discussion. And what I suggest we do, at this point, is transition, which means I'm not going to completely cutoff follow-ups that relate to the first few questions, but I think that it's time in

our discussion to move on to relevant factors, which will continue into tomorrow. So don't feel like you have to get everything out that you want to say about relevant factors this afternoon. I think we've already acknowledged that this is a hard topic. So one of the things I think we want to do in this afternoon's discussion is raise things to think about. So start thinking about next steps but also think about what is it that we want people to think about because that we have the luxury of two-day meeting, we have a little pondering time tonight, which we'll probably take up while eating dinner and other things.

But I notice that this group, it's predecessor, and many of the people who I know on this group, tend to come out with fairly brilliant statements after sleeping on something. So I'm counting on you to do that.

(Laughter.)

CO-CHAIRPERSON MORAN: I think we all are.

So part of where we're heading in this next phase is to transition into relevant factors. I suggest that we think about the first two of the four questions in particular, because they're broader questions and make sure that -- I want to make a big effort to make sure that everyone has an opportunity to raise ideas, concepts, anything else, issues for folks to think about.

And then we can come back tomorrow -- based on what happens this afternoon, we'll be trying to figure out how to frame the discussion tomorrow which will definitely include the third and fourth questions. And I think based on some folks here, we'll have some fairly robust discussions of those questions, but also following up and picking some directions based on what we do right now.

So with that, we'll be starting over again. I'll be sticking with the program that we've been doing, which is to afford everyone at least one opportunity for, as Bill calls it, and intervention on a topic, before circling back around for a second time.

And if we have enough time, I'd certainly I'd like to afford more opportunity for back and forth. I know that's a frustration of this kind of group. And I know we have two flags up that are kind of leftovers from the last one, so I'm not going to count those towards the interventions on this next question.

PANEL MEMBER BAIER-ANDERSON: Can I just ask a clarifying question?

CO-CHAIRPERSON MORAN: Absolutely, Cal.

PANEL MEMBER BAIER-ANDERSON: Okay. So I'm just getting a little confused, I think. You know, I'm with familiar with the A through M criteria and the 86 or whatever endpoints there are. But then there's relevant

factors within the seven areas specified by the reg. So I'm confused. Like can someone remind me what the seven areas are, and how they -- oh, they're there. Okay. I'll pull out.

Thanks.

PANEL MEMBER VERSTEEG: I assume they are.

PANEL MEMBER BAIER-ANDERSON: Okay. Thank you.

CO-CHAIRPERSON MORAN: All right. So that certainly didn't count.

So I have Ann and Cal trying to kind of wrap up from the last one. And then we'll start keeping a list on starting on those questions. Just as a reminder, that's on this Attachment 3, Section 2, relevant factors, the first two A and B questions are the ones we're going to try to tackle here.

So Ann and Cal and actually Meredith.

PANEL MEMBER BLAKE: I think Cal's question didn't quite get answered.

DEPUTY DIRECTOR WILLIAMS: You want to know about why that's seven?

PANEL MEMBER BAIER-ANDERSON: Yes.

DEPUTY DIRECTOR WILLIAMS: Okay. Adverse impacts is one -- adverse environmental impacts is one and then you get the other six. It's funky math.

PANEL MEMBER BAIER-ANDERSON: Got it. Thank you.

CO-CHAIRPERSON MORAN: All right. So Ann, then Cal. And then if you want to start tackling the next question, please go ahead and put your flag up -- or your name tag up.

PANEL MEMBER BLAKE: Thank you, Kelly.

So this actually came out of a break conversation with one of the DTSC staff trying to clarify a little bit. And I'm hoping it will transition from tools into factors and kind of start us thinking about implementation as well of how we go about doing this.

So one of statements -- the overarching statement that I wanted to make is getting from where we now, the kinds of tools and the gaps that we all know and struggle with every day on the tools that exist to how do we get what we want to achieve out of these regulations?

So I just wanted to give the example that you know we may have tools such as GreenScreen, for example, that have the 18 endpoints. We may be trying to get to the OEHHA 36 endpoints. And just -- so two statements to make about that.

One, as we showed the UCLA case study approach, you can still make a reasonable decision even with sizeable data gaps. And I think that speaks to the relevant factors. And those varied, even in the two, what we had hoped were, data rich case studies that we used.

Those relevant factors became quite clear and they were quite different for each of the applications. So we had -- we can refer you to those papers.

And then I also wanted to provide the example that just by asking the question, you will be generating some of the data that you're looking for that may not currently exist. So the example we have here is San Francisco almost a decade ago now setting criteria for environmentally preferable purchasing for institutional cleaners.

We had a set of criteria that many of you would recognize, and they're now incorporated in things such as Green Seal. But one of the gaps was aquatic toxicity, where we wanted that. The City of Seattle also wanted that, because we both had waterbodies we were concerned about. But just by asking the question, after a few years we started getting aquatic toxicity data.

So just so -- those were the two points I wanted to make that we can go from our current tools to the kind of data that we want, even though -- so our current toolkit may not be adequate, but we can build that as we go.

CO-CHAIRPERSON MORAN: Thank you, Ann.

Cal.

PANEL MEMBER BAIER-ANDERSON: Okay. Just a

follow up. Again, most -- based on my experience evaluating chemicals through the Design for the Environment program, both within the alternatives assessment and safer product labeling program, most of the chemicals are not data rich. So it's not like you're doing an alternatives assessment for BPA, DEHP, and TCE. You're doing it for chemicals that really -- you can do that literature search pretty quickly and assemble what data you have.

So then it becomes a question of how can we compare what data we have in hand, and you can look at the tools and say what tools might be helpful here?

But then there's the flip side of, you know, there may be a critical data gap that you really, really want -- feel it's important to address, because the chemical of concern has certain -- has a particular endpoint that has been highlighted as a concern.

So what do you do, other than highlight it? Is it the responsibility of the folks who are doing the alternatives analysis to address that data gap, or is that something like Ann pointed out, that if it's just acknowledged as a critical data gap, then maybe we'll get lucky and it will be addressed over time?

CO-CHAIRPERSON MORAN: Meredith, can you say anything, or Karl, can you say anything about that?

(Laughter.)

CO-CHAIRPERSON MORAN: I see lots of writing here.

BRANCH CHIEF PALMER: Well, one thing -- one of the reasons we're starting slow and deliberately with the things that are fairly well known is that because there's some data there, but that's always going to be -- there's not going to be a tradeoff.

And I'm not sure how -- you know, I think Ann's point is a good one is asking the question, but it is going to be on the responsible entity. And the assessment process, if there's not data there, we may end up going ultimately to a regulatory response or we may then -- the Responsible entity is going to have to make a judgment call, and pose that to us, and that's what we'll have to evaluate.

So it may by limited data. It may be no data. And that's going to be weighed against the other relevant factors and that which we do have. So I'm not sure that answers your -- it doesn't really answer your question.

PANEL MEMBER BAIER-ANDERSON: Well, yeah. I mean, there's never as much data as you want and/or need. So, I mean, you're always chasing data, so -- but I think the point that, you know, articulating a data need is the first step, right?

BRANCH CHIEF PALMER: Okay.

CO-CHAIRPERSON MORAN: So we're going to come back around to data, data gaps, some of these questions tomorrow. So I'm going to ask that we stick that in the parking lot for the moment, and come back to the relevant factor selection, recognizing that this got gap thing actually plays in, in an important way.

So don't -- I'm not saying don't talk about it, but just saying that -- you know, I don't want to take the discussion into that smaller question when we're really needing to start on this big black hole question.

And I only see one flag up right now, and that's Helen, who likes to go first. So I'm suspecting that several of you probably have some thoughts about relevant factor selection. So I encourage you to put your little flag up. If you don't, I'm going to talk. So let's let Helen go.

PANEL MEMBER HOLDER: So I had kind of a quick question. Maybe even just show of hands sort of a thing. Is there anyone on the Panel who supports the idea of trying to enforce every factor to be considered every time? Is there anyone from a technical perspective, strictly -- forget the regs for a second and just say technically, is there anyone who wants to advocate for that?

(No hands raised.)

CO-CHAIRPERSON MORAN: When you're asking that question, you mean -- do you mean consider it as in delved into in detail or considered at the level that you and Tim are talking about where you're actually saying it's unimportant through some basis?

PANEL MEMBER HOLDER: Either. I mean, so I guess it's like -- I guess one of the questions that we struggled with, you know, on our team was do you actually, from a technical perspective, get a better outcome having done a complete analysis on all of the factors? And the reason that I ask that is because it's actually not -- tradeoff resolution is completely values based, 100 percent values based. And so all the technical assessment can do is give you those things that you might be comparing, and it doesn't actually lead you to a better outcome.

So, I guess, I just wanted to kind of set that as a sort of a precursor to this discussion of what's relevant, because I think that there's a school of thought for maximalism of let us look at absolutely everything in the fullest detail we can. And as scientists we're all very -- you know, that's very appealing to us to do that.

But I am actually not convinced that that gives us better outcomes. And so kind of to the point of

potentially being able to use a tool, that maybe doesn't hit everything in the detail that we would like, we still might actually end up with a good outcome, if we use tools that have been carefully constructed to find the sentinel endpoints or to -- that share the values of the entity that is using the tool.

CO-CHAIRPERSON MORAN: So Helen has put a fairly interesting idea out there.

So I see Mike wanting to talk next. So Mike -- Don -- I'm sorry -- you want to go next.

PANEL MEMBER VERSTEEG: Yeah. When I first saw the list of the relevancy factors, it kind of blew me away. It's relevancy factors -- it looks like an output from a workshop, where you kind of go and get 30 people in a room and you say let's define every single relevancy factor we possibly can come up with and write it down on a piece of paper.

And so if there were databases where you could just pull all these out and scribble them down, that would be fine, but you've got to have a rubric of some sort or an approach to simplify and lead you to which ones are really critical for making your decision.

So, you know, I'd support I think where Helen was going was, you know, you've got to figure out which ones are informative and useful, and which ones are really

excessive.

Looking just at the physicochemical properties, and it may just be that I'm not a good enough chemist. But things like melting point, if a chemical is going to be soluble in water, and we're talking about aquatic toxicity or environmental toxicity, where does the melting point come in. I mean, we always write down here's the boiling point, here's the melting point, and we always ignore that. I mean, we never use that in an Environmental Assessment.

Lipid solubility is written down right next to octanol-water partition coefficient. You know, they're essentially the same. So depending on the chemical and a couple simple properties, you would throw out a lot of these phys-chem properties as just not relevant in the environmental compartment.

And I would think, although I'm not an expert, that same goes for in human health. You know, if the material doesn't get into the atmosphere, it's just not volatile, if none of the breakdown products are volatile, if in the production pathway, you use the exact same production pathway as the chemical you're replacing and it's not volatile, then, you know, a lot of the air impacts are going to be exactly the same as for the original chemical.

So I think if you -- I think this list can be greatly simplified. And the way I like to think about environmental assessments is draw your pathways, where can this chemical go, what receptors can it get to and let that direct you as to which factors are relevant and focus on those, and do a good job on those, rather than a lousy job on lots of other ones.

Thank you.

CO-CHAIRPERSON MORAN: Thank you. I've got Julia and Tim queued up.

Julia.

PANEL MEMBER QUINT: Well, to answer Helen's question, I'll take the bite. You know, having worked in a government agency which, you know, where we had to make sure that we were comprehensive when we looked at health effects. I mean, what you do is you search for information on the chemical. If it's a chemical that you're interested in, and you find every possible amount of -- every bit of information you can about that chemical, you don't methodically go through each of these factors to research them separately.

So that would be my answer to that, is that, you know, if you do a complete search for everything that's available on the chemical, and you don't find any information, you assume that either, you know, it -- and

sometimes these things have been tested. There are 90-day tests where people actually may have looked at some of these endpoints. Some of those data are not accessible, and, you know, because they're not reported in the literature, so you don't have access to them.

So I don't think -- I mean, I think we would be her, you know, a million years looking at every chemical through all of these endpoints if we tried to do that. So I think -- my -- I would hope that DTSC would take the approach that somebody has done a very comprehensive search of a chemical. Now, whether or not, if you don't find any information on the chemical, whether or not that means that it's an acceptable alternative, that's where the rubber hits the road, because we're not just looking for the toxicity of a chemical, we're trying to replace it with a chemical that we know is toxic.

So you don't want a regrettable substitute. So it -- you know, it is somewhat of a burden, but I would do physical -- you know, you look at the chemical, if it's corrosive, you know it's not going to have certain other systemic issues. I mean, there's a certain amount of common sense that one uses when you're doing this.

And I think in the REACH regulation, they have done a good job of looking at it, because they're interested in testing, so they're trying to rule out

people doing tests. So they will have these kind of algorithms of if it's this, then you don't have to test for that. So they make use of existing information wherever possible, so -- and I think for some of these chemicals, you know, we do have existing information.

We have endpoint information in a number of sources that is not in the GreenScreen yet, I mean -- or you know, maybe never will be, but I mean it's not a part of the list of chemicals that you can screen out. I mean, EPA has endpoint data for the IRIS documents they do a number of endpoints. They end up with the most sensitive, but they actually do have, you know, threshold data and, you know, quantitative data for a number of endpoints. It's just not presented in a way that you can get at it very readily.

ATSDR has a lot of endpoint data where, you know, you list a chemical and you -- for an endpoint for various levels of exposure, as far as I know not used. NIOSH has a lot of data on, you know, target organs -- the effect of chemicals on target organs that could be used.

So we could do it from a screening perspective, if the -- you know, the way we do with GreenScreen, which I think is extremely helpful. If it's on a legitimate list -- I mean, if there's a legitimate list and it's not on that list, then you can rule it out that way.

But I would never just de novo look at ocular toxicity and all these different toxicities. And I think when OEHHA put this together, some of these are emerging. You know, we -- I think the epigenetics stuff is emerging. I mean, I don't think that we have information. I think they were aware of that, but we're planning for a regulation that is not 2014, but it's going to go for a long period. So by the time all is said and done, we may have endpoint data on a lot of these routinely collected.

So I think part of it was thinking in the future, and not thinking, you know, present day. So you wouldn't leave out some of these things, if you know that they possibly could exist.

So that would be my answers that there be some prioritization, and maybe the guidance could speak to that. You know, a screening, based on, you know, information that we have at hand, a thorough search of the chemical itself, and then, you know, take it from there.

CO-CHAIRPERSON MORAN: All right. We've got Tim, Ken, Mike, and Meg in the queue.

PANEL MEMBER MALLOY: Is it my turn?

CO-CHAIRPERSON MORAN: Yes.

PANEL MEMBER MALLOY: Thank you. I agree with what Julia said. And look, I'm speaking not from a scientific standpoint, but from a kind of policy and

regulatory standpoint. I could use a little clarification myself on what we mean when we say tool, and what purpose for that tool.

So, for example, there's -- talking about relevant factors -- identifying relevant factors, and there's mentions of GreenScreen as a tool for doing that. And maybe I just don't understand GreenScreen enough, but how is that -- how is that a tool for identifying relevant -- it's got a -- if I understand it correctly, it's got a built-in set of factors that it looks at, and it fills in data on them.

And then I thought after you go through the process of looking at external sources, putting the data that you have, seeing the ones that you don't have. Then it becomes, in my mind, kind of a macro tradeoff decision making tool, because it takes you through different steps of saying, you know, you're at this level, and then you go to that, and then you get a ranking and then you compare.

So, to me, when I think about GreenScreen and some of the other things that were up there, it's not obvious to me that they are tools for making the kinds of judgments that Julia just talked about.

I think there are tools and methods for making those kinds of judgments. Some of the work that's being done at UC -- at some of the UC campuses in the

nanotechnology area, are developing kind of some qualitative, some based on kind of Bayesian and value of information models for identifying what are relevant factors. So those are tools I think of.

So one is I think there's kind of a fuzziness about tools. And the other point I just want to make about it is, I do agree, yes, I think -- so I think Julia was kind of answering you saying yeah, we should be prioritizing in someway. Some things should drop out. And the big question is how do you -- what do you do to make them drop out, right? So the basic answer is yes or no. I can't remember, but --

(Laughter.)

PANEL MEMBER MALLOY: But I wasn't raising my hand. But here's the thing, if I could just throw this in the trick is what are the things you're -- so, Don, you talked about exposure. If we know there's not going to be exposure, then that should drop out. And that one makes me a little nervous, because it's -- what do we mean when we know there's not going to be exposure. If we know there's some inherent property to the chemical such that we know it would not be an air contaminant or we know certain things it can't change depending upon contingencies in the way the world works, that's one thing.

But then if we were to say we know there's not going to be exposure, because in the process that's used, it's only used in contained areas, so it will never -- that one -- you know, that's something that could vary. You know, if there's an accident, or if there's mismanagement, and so on and so forth.

So that one where I'd say, oh, you know -- I probably wouldn't drop something based on exposure. So I think we have to be kind a specific about what those would be, whether -- the tools that you would use to do prioritization, and also kind of the rules of thumb or the standards you would use to drop something out.

CO-CHAIRPERSON MORAN: Thanks, Tim. Well, Meredith, say a couple words here.

DEPUTY DIRECTOR WILLIAMS: Yeah. I just wanted to say I think staff is in agreement that GreenScreen wouldn't be a tool for determining relevancy. And I think most of the tools that we listed are tools that are really about doing that analysis of the chemical or of a particular thing, rather than a tool that says should I consider this factor?

So I don't think that was our intent, but it does point to me that definitions are very important here, between the tools, the methods, the frameworks.

CO-CHAIRPERSON MORAN: All right. I've got Ken

Zarker, Mike, Meg, Ken Geiger(sic).

PANEL MEMBER ZARKER: Great. Yeah, so I wanted to just, from my perspective, go back to some of the principles we've been talking about in terms of this work. And one of those principles is around, you know, sort of shifting the burden of proof to the producers away from our current model, which is the government has to prove the problem and then take action.

So I was trying to think about your question how long -- if I was putting a system together for an organization, this is very helpful to have the laundry list of issues. It's almost like in the early days when we were doing environmental management systems, and we put all the attributes down, and then there's weighting systems within that organization. And then it comes down to what is the risk tolerance within that organization to feel, you know, comfortable standing behind what evaluation process that they've gone through internally.

And the way to do that is by either auditing your own systems -- the other point is around the product safety laws in the United States, it's very difficult to go -- for consumers to go and challenge the, you know, concerns about the product safety and be successful in making reforms. There's a lot of protections built in on the side of the company.

So that's kind of the way I see the system working right now. And what these kinds of approaches we're looking to do is to, you know, help improve product safety, reduce risks, and shifting the burden. So as we get into the details of how the guidance looks like, good examples, I think I'll agree with a lot of the conversation that we've put forward today, but I think we have to go back to some of these principles that we're trying -- at least in my mind, I'm trying to see us to shift.

In terms of Cal's, you know, point about data gaps and Karl's, you know, how do the states get more data, well, I think, you know, the role of the federal government is to be able to call in and get data where there are data gaps. So it seems like that's an appropriate role for EPA to work with the states to be able to get that data, and to be able to share that across, you know, these type of programs.

CO-CHAIRPERSON MORAN: So thank you. And as we're moving over to Mike, I'll remind everyone that you almost need to eat the microphone. It moves quite freely, so you can even sit back and have it practically in front of you, so feel free to do that.

And also as a reminder, as Ken is making his comment, he's looking at Cal, and all of us are here as

individuals and not representing our agency. And we do tend to kind of know -- we know that -- Cal is extremely familiar with all the things that EPA DfE program is doing, but she's not here as the voice of EPA. She's here as Cal, and that's true for everybody who's in the room.

And actually, I hope that you all will find that freeing a little bit, because our intent is not to put you on the record on behalf of your organization where you might need to have approvals, and people get mad at you if you said a certain thing later. This is where you, as your person, with your personal expertise are advising the Department.

PANEL MEMBER ZARKER: Well, I appreciate you saying that. I started off with that on my hat, you know, but then it started to slip into, you know, kind of your traditional role. So thank you for that reminder.

CO-CHAIRPERSON MORAN: That's not a criticism. It's a natural thing to do exactly that.

So with that with the mic eating and so forth, I'm got Mike and Meg and Ken Geiser in the queue.

PANEL MEMBER CARINGELLO: Okay. And I'm -- this is Mike Caringello. And I'm first going to say if I stare like at Don or something, it's because I talk with my hands, I move around when I talk and I keep fading away from the microphone. So if I stare right across, then I'm

right at the microphone. So that is my rationale. It's not for any other reason.

(Laughter.)

PANEL MEMBER CARINGELLO: But I think what, to me, the whole thing with the relevant factor and how to determine it. You know, I think the Agency has done a big chunk of it right up front. What is the key relevant factor we need to look at? It's going to be when they declare here is the priority product. Here is what we say are the reasons we selected it. So that's kind of here's our default relevant factors. You know, they're right in the document. You can't get away from those. Those have to be discussed in an alternative assessment. But then how do you determine the others?

And back to Helen's question, I was a not raise my hand either, because I think there are things that just -- they don't apply at all to when you look at the chemical and the product combined. There are going to be areas where there is no exposure. And I think you can't ignore those. I think there needs to be a way, when you do your alternatives assessment, you can either assess those factors or say I don't think this was relevant and here is why it wasn't relevant.

And then the Agency looks at that. The Department, part of their activity is, okay, either you

missed something, we don't agree with you, go back and redo it, or, okay, yeah, that makes sense. That is an irrelevant factor. We knew that, you know, this stuff is volatile. There is, you know, no chance it's going to get into the water stream. It's not miscible, whatever the rational, but yes, we agree and so we're just going to move on, and we're not going to even look at the analysis, because everyone has limited resources.

And that way we protect the agency, we protect, you know, the entity -- the responsible entity from having to do it, because we're also saying -- if we were to say all factors are relevant, and we've got a chemical that you've got data on, but you're trying to compare it to an alternative that you don't have data on, we're saying use available data.

So now we're saying you can't even consider this potential alternative for a factor that is really not relevant. So if you're looking at a chemical, and you've got here is the key factor the agency looked it. It was human health. And this new chemical has no human health, it doesn't mean we can just force fit it in and say, "Oh, look, there's no data so we can just automatically use it. But if it's all around that melting point bit, because melting point isn't applicable, because this thing is never outside of a gaseous face, then we're not going to

worry about that and we're just going to move on.

I think the other way we determine relevant factors, is it as a group around the products is when we hit those workshops. I think it is a point you almost need to put in the agenda for the workshop is to discuss what factors might be relevant to you as an industry as a whole, so that we're not saying okay, you know, the big companies can sit here and they can really well define, oh, this is isn't relevant and here's our 25 pages of why it's not relevant.

And then the small company is like, gee, I got to really do this and I don't how to do it, and I can't explain why it's not relevant. If it's a discussion point in a public workshop, then everyone is starting at the same point.

CO-CHAIRPERSON MORAN: Thank you, Mike.

I've got Meg, Ken, and Art.

PANEL MEMBER SCHWARZMAN: Thanks. In responding to -- Meg Schwarzman. In responding to Helen's question, I kind of wanted to return a bit to first principles also of like the reason that there are all of these relevant factors was to try to create a process in which when you're looking at alternatives to a chemical of concern, you don't shift risk, right?

So you select an alternative that's not a

carcinogen, but you find out, in fact, that in producing it, it creates ten times the greenhouse gases and uses 100 times the water, and creates, you know, 50 times the waste or something, and that you've effectively shifted the risk from one population or one environmental compartment to another.

And so in that way, I find myself a little bit in the hand raiser category, but I think I would move it out to the level of the seven, as opposed to the level of the 80, whatever it is.

So I think that every alternative needs to look at the seven. You can't just say, oh, no material and resource consumption impacts. That's not -- it isn't relevant, because we're talking about a carcinogen, or, you know, you can't just cross off big categories of impacts, because that was the rationale behind including these relevant factors in the alternatives analysis is to avoid that perfectly well intentioned, but just underinformed risk shifting that can happen with selection of alternatives.

And I think we can think in the same way about the data gap question. GreenScreen provides some interesting guidance, I think, around how to work with data gaps that is worth taking -- for example, you know, this is just in their guidance materials. It's not in the

actual sort of protocol of how you fill out a GreenScreen, but in interpreting a score that is filled with data gaps. You know, it may be few enough data gaps, that you don't get an illegitimate score in the GreenScreen, but they're quick to say that if you have something that partitions to water, and what you're missing is aquatic toxicity, that's a very relevant data gap, and you don't get to get away with having that data gap there.

And I think we can apply the same kind of logic, you know, in a very targeted way. It's not that you have to have all your boxes checked, but if there's a chemical that's going to go into water, you need aquatic toxicity data.

And some things like that -- where it makes logical sense that you have a certain piece of information, and try to keep it sort of focused an targeted, but make sure that you have at least addressed at some level all seven of the sort of broad categories of relevant factors, is my bias.

CO-CHAIRPERSON MORAN: Thank you, Meg.

Ken and Art.

PANEL MEMBER GEISER: Okay. So like I think -- why isn't it --

CO-CHAIRPERSON MORAN: Not only do you have to eat the mic, but you also have to turn it on.

PANEL MEMBER GEISER: I'm not good on this.

CO-CHAIRPERSON MORAN: Yeah, so get it like two inches closer to you, and it will be easier.

PANEL MEMBER GEISER: Hello.

CO-CHAIRPERSON MORAN: You can pull it closer to you.

PANEL MEMBER GEISER: Like that.

CO-CHAIRPERSON MORAN: That's good.

PANEL MEMBER GEISER: Thank you, Kelly.

Anybody who knows me, knows that I'm pretty clumsy with things like television, little mobile things.

So this is not something that I've spent a lot of time thinking about. So I was listening to the conversation and beginning to try to wander through it in a way that I could organize it for myself. And I'm -- and it began to help me to clarify this. So I'm going to just say a few things of what I think I just heard. And it looked like there were different strategies for thinking about relevant factors.

And I'm going to start with the first one I heard, which is I thought what Julia said, which is kind of a fishing trip approach, which is you've got a chemical, and you're just going to go out there and look to see what information you've got.

And the relevant factors becomes the information

you've got. It naturally -- it's a pragmatic approach. It just falls out. I got this information, that must be the relevant factors. So that's a very minimal kind of approach, but it is -- I'm not sure that isn't done a lot, as a way to do it.

A second kind of approach would be to say that the firms should decide on the factors themselves. That just each firm in doing each responsible entity, I guess we're calling them, should just decide what are the relevant factors for their -- they care a lot about ecological factors. So they're going to spend -- well, a lot of them are going to be ecological. I'm doing this for you.

But they don't really care that much about the human health staff or something like that, so they're not going to do as many. Well, as long as you document that, it seems to me that is a potential strategy that allows flexibility to the firm or to the responsible party or whatever.

Another one, a third one, would be that when DTSC actually designates the product chemical, that it actually indicates what it thinks are the relevant factors. So there's another step in the designation that says we believe the relevant factors are these that ought to be considered in that.

Now, that may go against what Tim's pointing out, some kind of hidden regulatory thing, but it would be another strategy.

I heard another one, which I thought was interesting, and this would be something I would think toxicologists or people who know this stuff much deeper than I would be able to do. And I heard someone hint data was done or -- which is that there's little rubrics which are there. And that they're part of what you might call just good judgment.

If it does this, and that's what you know, you can also expect that it might do these as well. So you don't need to really look at those, that there are little rules of thumb that show up in this.

And then the last one I heard was sort of -- and the one I was going to come to, which is the one you mentioned, Meg, which is that maybe there's just a difference between what is kind of the bare minimum relevant factors, and the factors that you would consider above and beyond the bare minimum.

And you would make it kind of more of a selection of -- you've got to have one -- you've got to have a few out of each of the seven areas. But beyond that, you can -- it's up to you to decide. And then the big thing here would be that in the scoping document of the

alternative assessment, you as a -- as the presenter of that, have to say what were the rules you used to determine what the relevant factors were. And you could use any of these different strategies.

So I heard those different strategies. I kind of like the last one, most because it sort of suggests what the regulation says, which is you need to consider these things. And DTSC has lumped these into these seven areas, and you've got to be able to identify from those seven areas. But then you can, on top of that, use any number of other factors that fit the way in which you're trying to make the decision.

One last thing to say about it, of course, and that is if in the practical world, there are a lot of other factors, such as cost and availability and all the other things that are relevant, to whether you're going to even opt for a preferred alternative.

Just some thoughts.

CO-CHAIRPERSON MORAN: Thank you, Ken.

And before I turn it over to my co-chair to make his remarks, followed by Cal, I'll point out that Becky and Ann also have an opportunity to say a few words in this first round before we come back for another round of discussion. So I'll just, if you want to say a few words in the near term, please feel free to put your flag up.

Art.

CO-CHAIRPERSON FONG: Thank you, Kelly. I just want to make a comment about the first question, you know, the practical means for the identification of relevant factors within the seven areas specified by the regulations.

So, okay one, I'm not very smart, and two, IBM doesn't give me a lot of time to do alternatives analysis. So the approach that I took -- or that we took was use existing approaches. And one of the existing approaches that we used -- that we found to be very effective is actually -- and I understand this is not a quantitative risk assessment kind of a thing, but it, in fact, doing -- when we were trying to select or identify relevant factors is that we actually went to using risk assessment guidelines from things like Superfund and Consumer Product Safety type evaluations, including Prop 65, because -- and again, that's going to allow us to really key in on what factors are, in fact, relevant for making a sound EHS and business.

And a really major factor in that process it's the potential opportunity for exposure. So again exposure. So, you know, I know there are some concerns about, you know, there are no absolute way of proving that, you know, there's no exposure.

So, in fact, the question that we asked is, you know, just framing or stating the exposure question or things differently. So instead of what Mike was saying about no chance of something getting into the water, we asked the question what is the probability, high, medium, or low, of something getting into the water?

So again, we use existing approaches, again, even things like, you know, Superfund quantitative risk assessments that's going to help us identify.

Now, after having said all of that, okay, that's only really in terms of relevant factors from the original chemical of concern versus the potential viable substitute. It's really important that the relevant factors that we, you know, identify for the initial chemical of concern in the product of our interest or in how we're using it in the manufacturing process. That changes as we -- that often changes when we switch to a substitute or alternative, because the relevant factors are only going to stay the same if it's a drop in one-to-one replacement, and that's almost hardly ever the case in our practice.

So, in fact, we're very cognizant of the fact that relevant factors do change when we're replacing one chemical with another because, then something else might change in the process or even the product design.

I think I'll stop there. Thank you very much.

CO-CHAIRPERSON MORAN: Thank you, Art.

I've got Cal and Ann, and then we can come back for a second round.

PANEL MEMBER BAIER-ANDERSON: Thank you. You know, Art, the last point you made about the drop-in substitution, I think this was almost a starting point for a lot of the thinking of alternatives assessments, where you -- and it kind of was built out as this concept of distinguishing characteristics.

So some of the characteristics might be same as or similar to, but then there may be some characteristics that are different. So the classic example is with surfactants, most of which have some level of aquatic toxicity, but some degrade really quickly, and others don't. And so the degradation became kind of the distinguishing characteristic. But the world really is more complicated than that, and that concept kind of applies in a really limited scope. But when you get into different chemistries, it gets more complicated.

And, Ken, I think you did a great job of kind of summarizing the different approaches to identifying relative factors, but I have a hard time kind of rooting for one approach over the other, because, you know, DTSC will determine -- will identify some relevant factors in

the hazard profile, as was pointed out. But that fishing expedition is so important to identifying kind of the unintended surprises that you don't know you know until you start looking. So it seems like -- well, and some chemistries will provide you with rules of thumb for evaluating them, but not all.

So again, I think it's not a one-size-fits-all, and -- but articulating these different approaches I think is useful, because these are different strategies that you can use.

CO-CHAIRPERSON MORAN: Thanks. So I've got Ann. Becky, are you going to want to turn in this round or should I. --

PANEL MEMBER SUTTON: I'll make a comment.

CO-CHAIRPERSON MORAN: Okay. I'll put you on the list and then we'll come back around.

PANEL MEMBER BLAKE: Check one. Check one. Sorry.

So I suspect I'm going to be repeating some points, but I wanted to emphasize a few. And I think it's helpful sometimes to repeat points just to hear them in a slightly different way.

Thank you, Ken, for articulating what those different approaches were. And like Cal, I think I'm not -- it's not possible really to root for one or the

other, so I wanted to speak to what our practical experience has been based off the -- building the UCLA multi-criteria decision analysis generic alternatives assessment framework.

And I agree with Meg, that as a result of that experience, I would agree that you at least need to consider all seven areas at the high level. So to answer Helen's question, what do you consider? I think I wouldn't consider all 86 factors, but I would definitely consider the high level criteria, at least look at it to see if they were relevant, if that -- you're nodding. That's a good sign.

At least a cursory level. It may become obvious when you look at, like okay this thing is just not going to go into air. I'm not going to worry about that. So from building the UCLA MCDA framework, the generic framework, we started with the A through M factors, and then we pulled in basically on many iterations ago of the regulation every possible endpoint that we thought might be a source of data.

Now, the two case studies we used were very different. They were garment cleaning, which is nominally not a consumer product, but we had a lot of information on there, kind of to the -- we knew -- there was -- there were a lot of lights on that set of keys under the

lamppost, and also lead solder for electronics. And the idea being that we wanted to go to two places that were data rich.

And so in some part, that was sort of the fishing Expedition idea that Julia was suggesting that we went where the data were. And obviously, we got very different data sets for each of those two pieces.

So I think that's sort of a combination of some of the factors that you -- some of the approaches that you articulated, Ken, that we've been mentioning here. And I would caution though, you know, we went for where the data -- we thought the data were and it turned out to be not as data rich as we had hoped, not a surprise to any of us in the room.

And so while we thought that we could make a fairly reasonable decision on alternatives from in those two case studies with the existing data, I would caution that we wouldn't be limited by only available date, because I think some of the -- sometimes the outcome -- decision outcome could be improved by getting data on one or two additional endpoints. So that's what I wanted to add.

CO-CHAIRPERSON MORAN: Thank you, Ann.

Becky.

PANEL MEMBER SUTTON: This is more of maybe a

question for DTSC. Sorry. Getting much closer to the mic. So more of a question. So we've talked about a lot of different approaches. And given the data gaps, I'm kind of curious if we started from all these different approaches, we might end up coming with the same set of data for certain a chemical or variety of chemicals.

My question is will DTSC allow companies to just select whichever approach they want or why are we giving all these opinions? Is the guidance going to be more selective or specific in the approach to be used or are you just going to let folks have at it.

BRANCH CHIEF PALMER: Well, I think I'd refer back to Ken's comment that one of the fundamental tenets of this is shifting the responsibility to the entity doing the analysis to make some of those decisions.

And I think in part the philosophy behind that is that there are a lot of gaps of information, and we, DTSC, don't know a lot of that information and oftentimes the people who use and manufacture and design these products know more, so -- and they're going to look different -- and depending -- for the same product you might have a different analysis from a different manufacturer who has different business model or different supply chain, et cetera.

And what was the last part of your --

PANEL MEMBER SUTTON: Well, that kind of gets to it. I guess I'm just curious why we are discussing it?

BRANCH CHIEF PALMER: But, yeah, and I think that what I would say is that in this discussion of relevance is we are asking that the preparer to make some determination, and then tell us the rationale, tell us your story.

And I would say that the regs require that you consider these factors, but we don't dictate in the rule-making exactly what that means. And it may be that if you can document that this factor, whether it's deep down or at a higher level, is not relevant and here's why, that's what we'll be looking for. And there's no right answer.

I don't think -- I think when we get to guidance on a specific product, as we've identified, we've considered some of those factors in the priority product profile, to suggest why we thought it was a good one to pick. But that doesn't mean we've considered or decided all the relevant factors in the alternatives. In fact, we don't know some of those.

So I think the dialogue we'll get through the workshops will be helpful in guiding us on the product specific relevant factors, but generically the guidance will not be able to, for the manufacturer, say this is how

you determine what a relevant factor is. You're going to need to evaluate that and tell us your story.

PANEL MEMBER SUTTON: Okay.

DEPUTY DIRECTOR WILLIAMS: Just as follow up in terms of why this is helpful for us. We are drafting the guidance documents now. And we know this is something people are going the wrestle with and so we're trying to figure out how to articulate what this looks like in guidance. And so all of this input really gives us a number of possible approaches to explaining how the relevant factors should be considered.

CO-CHAIRPERSON MORAN: So we're stewing a little. I've heard everybody once now, and everybody is stewing around a little bit on. This is hard problem so. What I'm going to ask now, as we get into this second round -- you can say whatever you want, of course, and I know you will.

(Laughter.)

CO-CHAIRPERSON MORAN: But one thing I'd suggest is those of you who do AAs, a couple of you have made a few comments about how you decide what's a relevant factor, it would be helpful if the rest of you bring that up. I'm going to hold off on a comment right now, and in about 20 minutes I've actually got some handouts, those of you who were on the previous group know that I like to

make handouts and flow charts, so I've done that again.

And the reason I want to wait and do that then is to give you a chance to think about it overnight, and hoping that those will stimulate some of that nighttime cogitating that will produce something in the morning, because remember we're driving towards figuring out what we can suggest that the Department do in guidance.

So questions about what is it that you do, and also, at this point, it would be very welcome to have suggestions for things we might want to tackle a little more fully tomorrow so folks can think about it overnight.

And I see Tim and Helen as our starting folks.

So, Tim.

Oh, Julia, I'm sorry.

PANEL MEMBER QUINT: I can very brief. I just want to add to my fishing expedition qualification here.

(Laughter.)

PANEL MEMBER QUINT: That I also mentioned earlier that I thought DTSC should have minimum requirements for things for the AAs. And I very much don't -- want to say that I do believe that the seven things that Meg mentioned, the big boxes, should be a part of some minimum requirements that people have to go through for alternatives analysis.

When you're looking for a chemical, and the

toxicity or health effects of a chemical, it is a fishing expedition. But the reason we're in the problem we're in now is that people in occupational health will look only at health, and people in the environment will only look at environment, so we end up with these, you know, regrettable substitutions.

So somehow, we have to really change that. And the way to change that is to require that certain things be assessed. And I think the large boxes -- I was trying to distinguish the 86, or whatever they are, all of the small things in the -- you know, the ones off to the side, whether or not you would methodically do searches on all of those, which is what I understood part of Helen's question to be.

So I very much am a proponent of having -- of getting rid of this silo effect where people who are interested in human health only look at human health and I was one of those, until I converted. And that people in the environmental arena look at human health when they're coming up with alternatives, because it's happening as we speak, people who are interested in preventing smog don't think about toxicity, because it's not their mandate. And so I'm very much a proponent of ending that.

CO-CHAIRPERSON MORAN: Thank you, Julia. And as I go to Tim, if you've spoken and don't want to speak

again, I think that's -- then please put your flag down or we'll take it as you want to talk again right away.

PANEL MEMBER MALLOY: Is that directed at me?

CO-CHAIRPERSON MORAN: No, that's not.

(Laughter.)

PANEL MEMBER MALLOY: Just a couple of things. I want to align myself with Julia's rearticulation of her original comment.

(Laughter.)

PANEL MEMBER MALLOY: Meaning the fishing expedition thing, I don't think that's she meant, and I don't agree with it anyway, if she did mean it.

PANEL MEMBER QUINT: No.

PANEL MEMBER MALLOY: Okay. So that's one thing. So here I'm going to suggest, maybe what I call the relevant factors² approach, which is rather than trying to be really prescriptive about how you identify relevant factors, instead of guidance, should set out a set of relevant factors for identifying relevant factors, all right?

So things like relevant for one is relevant for all. So if you've got an alternative -- this goes to Art's point and Ken's point. Ken said, you know, we're going to -- as a starting point, you've got the relevant factors in the listing. So if those were relevant factors

for the baseline, they're clearly relevant factors for the others. But if one of the alternatives has a endpoint that's important for it, obviously that's relevant for everything else is well, so one for all.

Another relevant factor might be if there is no impact, you can -- you leave open how somebody shows up. But if there's going to be no impact with respect to that endpoint, then that's something that you could drop. I'd be really careful. I'm worried about the low impact, like the notion of this is likely to have -- you know, if we bin them, high, medium, low. Low probability, it's going to have a low impact.

That works when -- in the old system, conventional risk management where doing risk assessment and people are trying to find the endpoint that drives everything. Because in a world in which we're making decisions by identifying an acceptable exposure level, it makes sense to look at the one that's most potent and set the exposure level based on them, because when you capture that, you're going to capture it for the others, right?

But when you're doing a comparative approach, right, say you've got five endpoints, you've got one really high, two very low, and a couple medium -- I know this is really scientific, right? Right? So if you drop out those very low ones, but it turns out one of the

alternatives has those very low endpoints plus a moderate endpoint, you could end up in a worse situation than you had been if you, you know, focus -- you kept it, right? So it's an additive effect.

That's a very simple example, but I think what it goes to show is you want to be careful, but that could be -- we could derive from that a principle, which would be when you're considering whether to drop something, you need to take into account the cumulative effects that that might have on the end -- on the decision-making process, right? So that -- so those are just a couple of examples of ways in which you could make this, kind of give some guidance in terms of like some principles to think about, rather than attempting to come up with prescriptive rules or kind of quantitative tests and things like that. And then that's something that you could learn from.

The first AA comes in, and so now people -- they're going to think of things you didn't think about, but maybe they'll be consistent with the relevant factors for picking relevant factors.

CO-CHAIRPERSON MORAN: Thank you, Tim.

Helen.

PANEL MEMBER HOLDER: So I was -- as I was listening to the comments, I was noticing that there actually were, I think, several hand raisers in a lot of

the comments of what was going on, is that I call it the look-under-every-rock philosophy of AA, is that you want to just make sure that you're looking underneath everything to make sure you're finding all the bad stuff that might happen.

So I guess you're kind of circling back to it. Do we think that we have -- and maybe we don't answer this in this session, but maybe, you know, at some point tomorrow or in the near future, is do we have a consensus level that every decision -- or every factor inclusion or non-inclusion has to be justified?

Is that something that we could recommend or not recommend based on technical, strictly on the technical?

CO-CHAIRPERSON MORAN: All right. I'm not seeing any flags here. I was trying to ask a really stimulating question. Now, I know a whole bunch of you do AAs, so maybe I should put my stuff on the table now.

All right. So in your green folder, because we all have brown folders and green folders and lots of paper. On the right-hand side in the back, there are three pages, and the first one is a color figure. And actually, it's four pages, one pair is stapled together. Why don't you pull those out.

So I spent a long time thinking about this like all of you did. And I kept circling -- it was just too

many factors, too much stuff circling in my brain. And I said, well, what is it -- you know, how is it that I use this kind of information?

And what I realized was that the seven categories are really unequal from each other. And we've been kind of hinting on that. And I also realized that we always do prioritization. We're always doing it.

And then I asked myself, well, how are we doing it? And usually we're doing it based on best professional judgment. And where does the best professional judgment come from?

And so that's what I'm trying to get at in the figures here. So I don't know, staff don't have the ability to put these on the screen.

DEPUTY DIRECTOR WILLIAMS: I was just trying. If anybody has a flash drive, I can work on it, and I'd be happy to, but I don't have a flash drive.

CO-CHAIRPERSON MORAN: Yeah. Okay.

PANEL MEMBER GEISER: Are you speaking about this?

CO-CHAIRPERSON MORAN: No, I'm actually -- let's start with this one here. So the one with the big boxes. It was in the middle, conveniently.

Okay. So this is my high quality graphics tool. Not. So I do lots of flow charts. It's kind of my thing.

So I want to apologize in advance for folks who don't think in charts. So has everyone got it at this point?

Okay. And what this is, is it shows -- what I'm trying to do is show the seven areas of relevant factors and how they relate to each other in terms of how I use them. And this is not the only approach. This is -- what I'm trying to do is put this out here for -- to stimulate some thoughts and discussion perhaps tomorrow.

So just so that -- when I'm thinking about this, I'm looking at -- the big questions are adverse environmental impacts and adverse public health impacts. And I see, in the small print in the middle, several of these others, materials and resource, waste and end of life, chemical physical hazards as fitting underneath categories. When we're thinking about those, we're really thinking about those as subsets of the environmental and human health impacts.

When I'm trying to figure out what it is that I'm really going to think about in, terms of those impacts when I'm scoping the exercise, which is what we're really talk about in identifying relevant factors. I'm a consultant. I scope everything. We get paid for what we scope. So I do this all the time.

And I think a lot of you already do this too, because when I talk to you about what you're doing, you're

doing this same thing. The way I scope it is I take the chemical properties and environmental fate data that I have, and I think about what's going on at each phase of the product lifecycle. So most of us tend to focus on either the phase having to do with manufacture or the phase having to do with use. So now we have to think about all the phases through the lifecycle, each one individually.

But what I do is I make a conceptual model. And what I'm finding is that everyone makes a conceptual model, but they usually don't make it explicit. So they say some of the things -- there's been a whole bunch of people who've said that. Well, I look at this chemical and I see it's not volatile and neither are any of the alternatives, so my conceptual model doesn't include an air exposure pathway, so I'm not thinking about air.

So what I try to do, partly because I'm a consultant working with clients, is that I write that down, and I sit down and really think about it, and I run it past other scientists who have different kinds of expertise than I do. And I use that to scope my exercise for identifying environmental impacts and working with someone who knows a lot more about human impacts than I do to do the human part.

So what's not written in any of this, my point

here is that this conceptual model is important, and it's also important how we use these factors. I'm suggesting a really different way of thinking about the relevant factors.

And so this -- so this one piece is a way. It's not the only way. I'm going to challenge you all to say can you stimulate a different approach to thinking about some of these factors?

I want to go a little bit into the conceptual model piece, which is I provided two sets of other figures. And one of them is this color pretty graphic. So this is -- when people say conceptual model -- when I first heard the term conceptual model -- Meredith and I were talking about this last night -- my eyes would kind of glaze over. And I'd say, "Oh, conceptual model. That's what some artist does and it doesn't really mean anything".

But it's actually -- this is the artist's version. For some people this kind of version really sings, but this conceptual model for seal coats transport of polyaromatic hydrocarbons is actually based on science. And based on this conceptual model the author of this, and her colleagues, have been following those different pathways. So they actually followed the PAHs inside in the house dust, they followed it into the aquatic

ecosystems. They followed it through all of those pathways and had actually documented it. And that's the most advanced version of conceptual model.

Another kind of conceptual model, and this is a narrower focused one, but it's more like the kind of expectation I might have in what I normally do, is in the two-page stapled document here. This is an excerpt from an environmental risk assessment, what they call, a problem formulation. Now, I know I'm talking risk assessment. But it's where they're trying to scope out what is it we're going to think about in understanding the environmental impacts?

In this case, it's for a family of pesticides. And this is a couple of pages from the draft problem formulation that EPA, Office of Pesticide Programs put together. And the reason I'm sharing it is that it lays out -- they basically tried to figure out where would the product go based on its use pattern, and perhaps at the manufacturing point. But they're trying to say at each place where this is used where is it going, what are the pathways for it to get somewhere, and therefore what is it we're going to analyze?

So they're asking some of these big small questions, just like we've been talking about implicitly that we do.

So I'm putting these forward as a possible way for identifying relevant factors is the use of the conceptual model approach to be more explicit, so it communicates to everyone else what's happening?

And I'm hearing some reactions, so I'm thinking that we might spend a few minutes having a few reactions now, but I don't really want to be chairing the discussion reacting this, so I'm going to ask that we'll wrap this up this afternoon and then move on until tomorrow morning.

So Art tells me Don and Helen want to start.

PANEL MEMBER VERSTEEG: Yeah. I just had a very quick comment, and that is in the beginning you kind of implied that we wouldn't write down our conceptual models, and you always write done your conceptual model, because that forms the basis of your thinking in your AA. So what I was thinking, I was talking about the pathways. And I think these are -- these two are good examples of how you would write down a pathway or start to write down a pathway map.

And Christian -- there's another one that Christian Daughton put together for pharmaceuticals in the environment, where he kind of lays out, you know, everything. He's even got, you know, the cemetery in there and showing pharmaceuticals in dead people eventually going down, you know, into groundwater.

So it's -- you know, you always write that down, and you then make explicit decisions that, yes, I'm considering this part of the -- and this gets to the point Tim made where, you know, he's a little nervous about us not -- you know, crossing out some pathways. You have very -- you draw the whole pathway out, every possible vector, and then you provide the science that leads you to conclude that that is not a exposure pathway, which is going to have significant amount of material going down that pathway.

Now, that you've got that science on the table, then someone in a regulatory agency for instance can say I agree with your science or I don't agree with your science or there's additional science that needs to be brought to bear, and there's probably some other decisions.

Thank you.

CO-CHAIRPERSON MORAN: So, Helen.

PANEL MEMBER HOLDER: So at an earlier stage in the reg writing, one of the things I had developed was a set of questions, a very simple set of questions actually that sort of condensed down a lot of the questions you would ask as you're doing that set-up to do a risk assessment or whatever. And so maybe that would be something for us to consider potentially.

And to this idea of including things, I would

kind of like to introduce the idea that we could potentially support like a positive selection of factors as opposed to having to justify the exclusion of things. So that's just food for thought or food for discussion, is it's like can we get to a point where if we do a full model that looks robust, that that positive selection of the factors is accepted, as opposed to then having to go through whatever was excluded one by one necessarily and do a model to explain that.

I don't know, that's just a thought. But if anyone wants to see the simple questions I can also provide those.

CO-CHAIRPERSON MORAN: Are the questions something that you could give to the staff, so that we could have tomorrow?

PANEL MEMBER HOLDER: I can send it over.

CO-CHAIRPERSON MORAN: Okay. Why don't we -- why don't we put that on the list, and -- yeah, in fact, if it's possible, they might be able to send them to us tonight for those who have email access and are dying to do some reading this evening.

Thanks.

Are there other things that folks -- we're at 4:30, so we actually have another few minutes here. So I want to know if folks have other things they want to put

on the list to talk about tomorrow or other reactions.

My co-chair -- okay. That's good. I'm glad to see some flags. My co-chair reminds me that Helen asked a question, and it -- our job is kind of an interesting one. Although, we're trying to look for commonalities, our job is not to come up with consensus advice. So that's actually part of why there was some discomfort with the hand raising and some things like that.

So just to let you know that I don't think we're going to come to agreement on some of these things, but I think putting -- Helen, I really love what you're doing putting stuff out there for us to bat around, because then you see what the reactions are, and through that discussion we're much more likely to find a good direction to help the Department. So just a little nuance in that request.

PANEL MEMBER HOLDER: Sorry for using the word consensus. I didn't mean it that way.

CO-CHAIRPERSON MORAN: No, I actually -- I tend to naturally head to that word too. And it's not really -- and, in fact, it could uncomfortable for some folks to consensus on something here. So we really want to try to be careful about that.

So I'm not sure who went first. I think it was Ken and then Tim, who might want to say a few words here.

PANEL MEMBER GEISER: No. Mine is just a process question. My little agenda just says we have continued discussion on alternatives assessment. Can you give us anymore guidance than that? I mean, give me something to think about. I'm going to look at your diagrams definitely.

(Laughter.)

PANEL MEMBER GEISER: But other than that, I don't know how to prepare for tomorrow.

CO-CHAIRPERSON MORAN: Yeah, we're trying to figure that out. We have two more questions here that we haven't talked about, so that question is C and D on your page, so the relevant factors don't translate readily, and how -- dealing with the data gaps question, which I think is a big question that's going to engender some discussion about approaches. And I think we'll probably have diversity of views and it's going to be good fun. So that's definitely on the table.

But I also think that on the relevant factors selection, we need some more discussion on this. We seem to be doing a lot of stewing here. We're kind of coming towards something, but now is the time for us to be thinking about creative approaches for the staff, because they really do need some help with this. And I think we need to spend some time in the morning talking about that.

But part of why I'm throwing out are there other things you want to talk about is maybe either there are some related questions that have come through the conversation or something else that we should get on the plate for tomorrow, so we can think about them tonight.

PANEL MEMBER GEISER: Let me follow it up though. I need more. I'm a little where Becky is. I'm a little bit more trying to understand what the problem here is with the relevant factors. And So maybe, Meredith, you -- maybe tomorrow morning or something, you might lead us through a little bit of what has made this so difficult, because I mean we heard a lot of good ideas. We don't have to come to consensus, that's true. But something about this problem is very big, and I don't quite understand it.

DEPUTY DIRECTOR WILLIAMS: I do have a gut reaction to that, but I'm going to exercise a little self-discipline and wait until tomorrow to respond to that.

CO-CHAIRPERSON MORAN: All right. So we should have on the list up on our parking lot or somewhere that we'll ask DTSC to make a few comments about what's the problem here. All right.

PANEL MEMBER SCHWARZMAN: Can I just ask a question picking up where Ken left off.

CO-CHAIRPERSON MORAN: So, Tim, do you mind if Meg goes?

PANEL MEMBER MALLOY: No.

CO-CHAIRPERSON MORAN: Okay. Yeah.

PANEL MEMBER SCHWARZMAN: Thanks. Okay. Just picking up on what Ken was -- where Ken was going with that was I think one of the difficulties I'm having in offering ideas is that we don't anything to respond to, like we don't have a proposal in front of us, we don't have product profiles, or a draft guidance document to respond to. So it's hard to respond to an abstract problem.

I mean, I think we get that it's very complicated and difficult to write this guidance, but without something to immediately react to, it's hard to focus comments. And I know you can't produce something overnight for us to look at. But anything -- if there were a way in the morning, for example, to say, well, here's one approach we're considering and have us respond to that, that might be helpful, if that's within reach.

CO-CHAIRPERSON MORAN: So actually part of the purpose of the handout was to say here is a possible approach, use conceptual models to identify the relevant factors at each page of the lifecycle. So not necessarily a great approach, but an approach, so that's out there.

I think we've heard a couple others kind of implicitly. One is to say there's a default set of relevant factors that would be used for all products, so for all products and all alternatives. I heard some pushback on that.

Ken suggested the wild west. You know, we'll leave it wide open and let the businesses -- and I've heard some support for that kind of approach. So that's a few I think there. But everyone is sort of operating -- you're right that we're having this trouble that we're at this high level. And we do need to help the Department figure out how they might -- you know, what they might try.

So I don't think -- it's pretty clear to me we're not going to solve this for the Department, but you all -- yeah, certainly not in the next 20 minutes, but one thing to real cogitate on is what options are there to think about or what are the pros and cons? And we could potentially look at Ken's options or -- and these other ones. But it would really help if anybody says here in my experience this is really what I do, would also help to let people react to that.

Thanks.

So, Tim, you've been very patiently waiting.

PANEL MEMBER MALLOY: Thank you. I was having

kind of the similar question. To me -- and maybe it's cause I'm not a scientist, it didn't seem like as big an issue. Technically, it seemed like it's more of an issue of resources and doing these things in you know attractable ways.

I do -- I think I have a sense of why this is a -- for some folks and myself included, this might be a worrisome area. And I think part of it is the legacy of where we've been in the past in the risk assessment world in which making the call about endpoints you think about, that's where all the action is, right? So we've been in these situations where an endpoint drops out. There's -- it's contested. It drops out. And when it does, that changes like the data you have to get or it changes what the exposure levels are going to be. So there's some distrust and there's a lot of pressure on identifying the factors that go into the analysis.

But my -- and on the other side of that is this notion, well, if it's not necessarily, it's not necessary. You're wasting resources. And so -- and I think those are in the risk assessment world, that was the dynamic.

My guess is in this world, it's going to be somewhat -- those are going to be marginal cases where that's an issue.

I don't imagine -- because there's so much focus,

I don't imagine you're going to have a lot of cases where there's a significant human health or environmental impact that's floating there that people are going to say let's drop that out of the relevant factors. It's going to be more these cases where there's marginal impact. And then the question is going to be how much were different stakeholders worried about that particular endpoint. So my guess is it's not going to -- it actually won't be that big an issue.

But now having a beautiful conceptual model, I feel I have to respond to it. And my response to it is kind of like I think the devil's in the details. So this does a lot in terms of organizing the thinking, and it also highlights I think a big issue about who to what extent does exposure come into the decision making. But I don't think it kind of moves -- having a model like this moves you forward in actually making a decision about which of the things that are floating around in this box now come in or don't come in.

So I think you -- in a guide -- if you want to address in a guidance, you've got to do more than that. So I will, again, kind of advocate for the relevant factor² approach to it, in terms of for guidance and think about this as an iterative process where you're going to learn.

One last point on the -- like Don's question. In a way, I wonder, it's like -- it's kind of like look you're thinking about it in the big picture, right? So if you're saying to me, look, I did this conceptual model, and look, here's this pathway. It's not a significant pathway, and you don't need to worry about it because the health effects, right, because you're always going to be about the pathway and the effects, right?

So aren't you already kind of doing the -- I mean, to a certain extent, what you're trying to avoid to knock something out is collecting -- I mean, to a certain degree you're going to have to still collect the data and do the exposure -- thinking about the exposure and the hazard to make the argument that something drops. I wonder whether it's really going to be that important, is what I'm saying, you know, because to identify exposure pathways and then to convince various people that even the limited exposure that it is, you're not going to have a problem, because, you know, there's a very low potency and all these. You're like, you know, three-quarters of the way there in terms of collecting the data to do the AA, I guess, is the point I'm trying to say, which is why I'm convinced that it's much -- it's going to be very, very few cases where this going to be a big issue.

CO-CHAIRPERSON MORAN: Okay. So I'm actually

going to step in and break the chair role and temporarily step in as an individual contributor just to remark a couple of things.

One is that one of the big motivators in this relevant factor selection is to avoid regrettable substitutions. So if the net is cast too narrowly and issue isn't thought about, that's how we get regrettable substitutions. So we have numerous examples of that. We've even mentioned some of them in today's discussion.

So what DTSC is really challenging us to do is help them figure out how to guide people to not miss something that's going to be so important that it's really going to matter down the line. And that matters for that business too, because they want to identify that too, because then they might have to reformulate again and then again.

We have seen this. My brake example is the really classic one of that. They reformulated now three times, because they didn't know about a relevant factor when they were making a decision.

So that's what the challenge is for us is how can we help DTSC advise people to not avoid -- to not -- you know, figure out what are the factors they need to think about and invest in to not have a regrettable substitution. So that's why this question is so important

and more than academic.

As a person who just put some pathways ideas on the table, I want to clarify the conceptual model piece. My experience with conceptual models is that they can come at varied levels of detailed. What I'm proposing here is at that high level where we're first trying to understand what happens, what are the pathways there, not to go out and do the science to prove each of the pathways.

The science behind this figure on PAHs and pavement sealants has taken more than a decade to create, and I'm sure over a million dollars of mostly government funds to do that.

But this drawing was drawn first in its most conceptual form ten years ago without the benefit of all that. And then they started marching down the various paths looking for smaller and smaller pieces, and saying does that matter?

So the conceptual model idea that I'm putting on the table is not one where you've proven every -- all the linkages in every pathway, but the one where you're asking the question based on the information that we have, is this right or wrong, and therefore being transparent in how you're using that as your basis for selection of relevant factors.

And just finally one more point. I'm already

going to poke a hole in this, which is to tell you that my experience is also that sometimes we draw a conceptual model, we decide pathway is unimportant, and we're wrong. So this is actually one of the major sources of water pollution. So I've got some ideas for that, but that's for tomorrow.

And now Ann has a clarifying question, and I think we've kind of come back to Helen. So if you wanted to ask something right now, why don't you do that and then Helen has had her a flag up for a little bit, and so we -- okay. You are. Okay. Then go ahead. Just go ahead and then we'll let Helen go. I'm sorry.

PANEL MEMBER BLAKE: So my clarifying -- you sort of addressed my clarifying question, which is when they do that conceptual model and they went out and got data, then did they add other pathways to this, to Tim's point about it being an iterative process the one that you've got?

CO-CHAIRPERSON MORAN: Well, people are always adjusting their conceptual models as they learn more, but it's also a way of identifying if you made a mistake or now when you first started.

PANEL MEMBER BLAKE: Correct, yeah.

CO-CHAIRPERSON MORAN: So go ahead.

PANEL MEMBER BLAKE: So to continue that, I took up your challenge as a fellow consultant and thinking

about different clients I have and how we go about determining what the conceptual model is. And frankly, I think it's because it's so automatic we do it so quickly that we don't really think about all the factors, so that's really helpful to go back and think about, well, what are -- and at the risk of selecting my data to support my theory --

(Laughter.)

PANEL MEMBER BLAKE: -- I think I'm going back to supporting my idea. And what Meg suggested is that we do go across all the seven large buckets of the high level criteria. And so I'm going to think about this more and to see if I can extract that and articulate a bit better, but I have a wide variety of clients from large multi-national corporations to small companies within innovative products that are trying to find safer alternatives to governments that are concerned about endpoints.

And so each of them are coming to this question in a different way, either an exposure issue, an environmental issue, end-of-life issue, but I think the overarching piece is a lifecycle approach, and then looking at the bins, like which piece of the lifecycle actually has one of those seven big binned areas that is lighting up as a problem.

So I think that's sort of lending credence to your conceptual model approach, but I will think of it over a glass of wine and some sleep.

CO-CHAIRPERSON MORAN: Helen.

PANEL MEMBER HOLDER: The reason I was Chuckling over here was because one of the points that I actually had sat on and didn't -- wasn't planning on bringing up until you just said that, is that -- so if you look at the relevancy criteria, there's actually -- it's a four-part relevancy criteria. And one of the requirements is that it be in any lifecycle segment. And there are 12 segments laid out, which is way more than normal you would divide it up.

And so if you take the 80 times 12 and have to justify each one of those combinations, that is going to be -- you're going to just bankrupt everybody. I mean it's not going to happen. Nobody is ever going to do this. And if your goal is to make sure no one ever does an AA, then good job, because that's just -- even if you could -- I've been really just kind of really struggling with this idea of having to hit all 80 of them and do an analysis and justify that. I really -- as a practitioner, I'm like screaming on the inside.

But then when I kind of multiply that out, it's over 1,000 -- it's over 1,000 analyses that you would need

to somehow justify. Okay, well in mining, in the ore extraction, we don't think it has ototoxicity. Okay. In mining, we don't believe it has -- I mean, you would have to theoretically do that to fully comply. We really -- you are not going to be successful in this program, if you do that. So that's just kind of throwing a bomb into the -- a hand grenade into this argument saying legally you have the right to do it. Please do not do that, because it will end up hurting the program, and I don't think you're going to get good outcomes from it.

CO-CHAIRPERSON MORAN: So are you complete?

PANEL MEMBER HOLDER: I am.

CO-CHAIRPERSON MORAN: It was very passionate.

PANEL MEMBER HOLDER: It's the end of the day. I want my drink.

CO-CHAIRPERSON MORAN: All right. So we've got Don and Cal.

PANEL MEMBER VERSTEEG: So I don't know much about the brake example, but I think it involve zinc in brake pads.

CO-CHAIRPERSON MORAN: Copper.

PANEL MEMBER VERSTEEG: Copper in brake pads. Okay. Thank you.

And the fact that no one thought about copper going out into the environment and into waterbodies makes

me think that the people who drew that design drew that pathway, thought that the brake pads would be used, consumed, and then all the components of the brake pads, including the copper, would disappear. Clearly, they didn't share that with Bob and the others in DTSC, and have scientific review of that -- or with this group, and have scientific review.

So I think, you know, as Helen pointed out, you can do everything all the time, which, you know, you don't have enough time in -- the regs don't allow enough time for that or you can do the smart things and then have smart people review, check, evaluate, and compare. And so I'd advocate the second.

CO-CHAIRPERSON MORAN: So how do we get to the smart things? That's the question we're going to talk about again in the morning.

So, Cal.

PANEL MEMBER BAIER-ANDERSON: Okay. So my experience is that there's an art to conceptual model creation and problem formulation, even in risk assessment, because you want to come in at a certain level. You don't want to be down in the weeds, because you don't want to do all the analysis up front. You don't even want to get three-quarters of the way there. You want to find a way to kind of assess the landscape of data and piece together

this conceptual model. And I'd say that practitioners who -- there are practitioners who are really, really good at this. And I would argue that it's almost like an intuitive part of their brain, because it's really hard to find a good guidance, even in risk assessment, that tells you how to do this at the right level without wasting too much time and going in the weeds, and kind of letting go of the fact that, yeah, you may make some mistakes and you do have to iterate somewhat, but, you know, finding that -- finding that balance, finding the right way to do that it's really, really hard to talk about and explain to people how to do.

So I just want to put that out there, that if we can find a way, to kind of help talk about that, that would be really useful. But there is an art to the science of it.

CO-CHAIRPERSON MORAN: All right. We're getting to the end of the session, and so I'll offer just if anyone wants to make any additional little bombs in the middle, now is the time for the bomb in the middle of the room.

And not seeing any, I think we've had enough bombs for today. And so it's a little bit hard the stuff to think about form tomorrow.

And Ken wants to throw a last bomb.

PANEL MEMBER GEISER: No. Just another think to thing about for tomorrow, because you raised this, and I think it is a good point. This is -- this problem cannot -- this problem has got to be the same problem in a risk assessment, right? So is there someone in the room who could say the best practice in risk assessment at setting the relevant factors? I mean -- or something like that. Can somebody -- is there -- I think this is you.

CO-CHAIRPERSON MORAN: I've got the book, Ecological Risk Assessment.

PANEL MEMBER GEISER: Just to -- I mean, we may all decide it's not a good model, but we can't be the first that have tried to do this. And it would be useful to hear someone who says here's the -- here's how risk assessment has tried to do it, and what's wrong with that or whatever -- however. But it might be useful to have somebody say just a few words about that tomorrow.

CO-CHAIRPERSON MORAN: Okay. All right.

Anything else?

All right. So I think we're at the point of wrap up. Let's see. I'm trying to figure out exactly where we came to here. Do you want to try this or should I try this?

DEPUTY DIRECTOR WILLIAMS: I'm happy to try it.

CO-CHAIRPERSON MORAN: Okay. Thank you,

Meredith.

DEPUTY DIRECTOR WILLIAMS: So I think part of the reason you're asking, you know, what's the problem, why it's not obvious to you is because today was very effective in fact. The Panel got to the heart of the matter quicker than we may have even expected, and we walked away. The first question -- in the first part of the first question is what is a practical means?

Looking at, you know, 80 times 12, probably not practical, right. And so we are trying to find out what that practical meaningful defensible approach is. And a lot of the input -- your wonderful summary of the different approaches that we could consider now give us what we need to go back and develop that thing that you have in front of you that you can react to, I think.

That's my assessment of what we got out of today's discussion. I think some of the things that were mentioned, functional use for instance, the concept of beginning at the end in terms of crafting some of -- you know, some information about how we'll be making our decisions are things that we needed to take away very concretely and figure out how we're going to address those.

So it's tremendously helpful. So I feel that we got a number of pretty clear actions out of today. I'm

not going to summarize them all. Some of them are in the action items. And I could do a -- or in the parking lot, I could do a little bit more with that.

I would say that I do wonder if it might be appropriate to think about subcommittees to do some of that reacting to things that we generate. And so I would want the throw that out as a possibility for discussion tomorrow.

CO-CHAIRPERSON MORAN: All right. So homework assignments for tomorrow. We have -- I know Meredith is going to be summarizing for us in the morning what's the problem? And all of us are going to be thinking about what are the options to -- we're hoping, and maybe we can create our own list of options to react to. Ken had laid some stuff out there, but maybe we can get that. Helen was going to share a list of questions for us to -- that the staff already have.

We'll be thinking towards the end of tomorrow about what topics -- how we might break ourselves or have a sub -- one or more subcommittees to follow up on some things. So we'll need to set aside some time late tomorrow morning to be thinking about that in terms of specific follow-ups. So we'll be coming around to that.

Tomorrow, be sure you have your calendars, because we'll also be talking about a potential conference

call and in-person meeting time later this year.

So -- and let's see, do we have more things we want to do here other than -- okay. So we're just about to adjourn. And the Panel members will -- are advised, as always, we will be seeing -- most of us will be seeing each other this evening, and so please be mindful of Bagley-Keene and the need to avoid serial meetings or substantive discussions on what we're talking about here.

The dinner tonight -- if you don't know how to get to the restaurant, you can meet in the lobby at about ten minutes before 6:00 and -- the lobby of the hotel, the Citizen Hotel, and walk over together for that dinner.

And Corey has something she wants to say.

MS. YEP: Oh, if you're checking out of your hotel tomorrow morning, you can store your luggage here, and let us know if you need a taxi right away, and then we'll get you a taxi.

CO-CHAIRPERSON MORAN: All right. So that's -- I think that's everything, so we're adjourned for today. See you tomorrow morning at 9:00 o'clock.

(Thereupon the California Department of Toxic Substances Control, Green Ribbon Science Panel recessed at 4:53 p.m.)

C E R T I F I C A T E O F R E P O R T E R

I, JAMES F. PETERS, a Certified Shorthand Reporter of the State of California, and Registered Professional Reporter, do hereby certify:

That I am a disinterested person herein; that the foregoing California Department of Toxic Substance Control Green Ribbon Science Panel meeting was reported in shorthand by me, James F. Peters, a Certified Shorthand Reporter of the State of California, and thereafter transcribed under my direction, by computer-assisted transcription.

I further certify that I am not of counsel or attorney for any of the parties to said meeting nor in any way interested in the outcome of said meeting.

IN WITNESS WHEREOF, I have hereunto set my hand this 22nd day of April, 2014.

JAMES F. PETERS, CSR, RPR
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